



# **Avoidable Mortality in Cumbria: A Case File Review of 78 Suicides**

**Report 2 of 4**

**August 2014**

**Rachel E Brown**

## **Acknowledgements**

The author would like to thank the following people: Ian Smith (Coroner South and East Cumbria), David Roberts (Coroner North and West Cumbria); Dr Rebecca Wagstaff, Colin Cox, Dr Jane Mathieson, Ian Twiselton, Fiona Johnson, and Paul Blaylock from Cumbria County Council; Dr Dave Dagnan, and Dr Phil Taylor from Cumbria Partnership Foundation Trust; Dr Andrew Rotheray and Linda Hendrey from NHS Cumbria Clinical Commissioning Group; and Chris Sheldon and Gail Watson from LaSCA. Thanks also to all members of the Cumbria Suicide Prevention Leadership Group and Dr Gordon Hay from the Centre of Public Health.

Centre for Public Health  
Liverpool John Moores University  
Henry Cotton Building  
15-21 Webster Street  
Liverpool  
L3 2ET

Telephone: 0151 231 4542

Email: [r.e.brown@ljmu.ac.uk](mailto:r.e.brown@ljmu.ac.uk)

Website: [www.cph.org.uk](http://www.cph.org.uk)

## **Abbreviations**

BMJ – British Medical Journal

CCG – Clinical Commissioning Group

CJS – Criminal Justice System

CPA – Care Program Approach

DPA – Data Protection Act

DSR – Directly Standardised Rate

ESA – Employment Support Allowance

EUREGENAS – European Regions Enforcing Action Against Suicide

GP – General Practitioner

HSCIC – Health and Social Care Information Centre

ICD – International Disease Classification

IMD – Index of Multiple Deprivation

LaSCA – Lancashire and South Cumbria Agency

LSOA – Lower Super Output Area

MDT – Multi-disciplinary Team

MHA – Mental Health Act

NCISH – National Confidential Inquiry into Suicide and Homicide by People with Mental Illness

NHS – National Health Service

NICE – National Institute of Care Excellence

NIMHE – National Institute for Mental Health in England

ONS – Office for National Statistics

PHMF – Public Health Mortality File

PHE – Public Health England

SPLG – Suicide Prevention Leadership Group

SSRI - Selective Serotonin Reuptake Inhibitors

SUI – Serious Untoward Incident

# Table of Contents

Acknowledgements .....	2
Abbreviations .....	3
List of Figures .....	7
List of Tables .....	8
1.Executive Summary .....	9
2.Introduction .....	12
3.National Suicide Prevention Strategy .....	12
4.Suicide Prevention in Cumbria .....	13
4.1 Suicide Prevention Strategies.....	13
4.2 Cumbria Multi-Agency Suicide Prevention Leadership Group .....	13
4.3 EUREGENAS .....	14
5.Aims of the Case File Review of Suicide in Cumbria .....	14
6.Defining Suicide.....	14
7.Death Registration Process .....	15
8.Methodology.....	16
8.1 Caldecott Approval and Data Protection .....	16
8.2 Case File Selection .....	16
8.3 Data Collection .....	17
8.3.1 Coroner Information .....	18
8.3.2 Primary Care History .....	18
8.3.3 Psychiatric History.....	18
8.3.4 Data Analysis.....	18
9. The Demography of Suicide in England .....	19
10. The Demography of Suicide in Cumbria.....	20
10.1 Local Authority Suicide Rates in Cumbria .....	23
10.2 Trend of Local Authority Suicide Rates in Cumbria .....	25
10.3 Years of Life Lost due to Suicide in Cumbria .....	26
10.4 Deprivation and Suicide in Cumbria.....	26
10.4.1 Income Deprivation.....	28
10.5 Rural and Urban Classification and Suicide in Cumbria .....	29
10.6 Non-Resident Suicides in Cumbria.....	30

11.In Depth Case File Review Results.....	31
11.1 Demographic Details.....	31
11.1.1 Relationship Status.....	32
11.1.2 Employment Status .....	33
11.1.3 Occupation.....	34
11.1.4 Previous Contact with the Criminal Justice System .....	36
11.2 Coroner Related Information .....	37
11.2.1 Suicide Note.....	37
11.2.2 Method of Suicide .....	38
11.2.3 Alcohol Consumption at the Time of Death .....	39
11.2.4 Alcohol Use and Method of Suicide .....	39
11.2.5 Coroner Verdicts .....	40
11.2.6 Prevention of Future Death Reports .....	41
11.3 Primary Care History .....	42
11.3.1 Consultations with the GP .....	43
11.3.2 Reason for last contact with GP (<1 year prior to death).....	44
11.3.3 Number of GP consultations in the previous year for mental health reasons .....	45
11.3.4 Mental Health Diagnosis .....	46
11.3.5 Type of Mental Health Diagnosis .....	46
11.3.6 Diagnosis in last 12 months .....	47
11.3.7 Prescribed Drugs in the last 12 months .....	47
11.3.8 Multiple Drug Prescriptions.....	48
11.3.9 History of self-harm.....	48
11.3.10 Physical condition at the time of death.....	50
11.4 Psychiatric History .....	51
11.4.1 Contact with Specialist Mental Health Services.....	51
11.4.2 Psychiatric Status .....	52
11.4.3 Patient Suicides .....	52
11.4.4 Patient Suicides by Gender .....	53
11.4.5 Patient Suicides by Age-Band .....	53
11.4.6 Patient Suicides and Last Contact with Services.....	53
11.4.7 Patient Suicides and Nature of Last Contact .....	54
11.4.8 Psychiatric Inpatient Care.....	55
12. Discussion and Recommendations .....	56

12.1 Emerging Risk Factors .....	56
12.2 The Suicide Audit Process .....	58
12.3 Documentation.....	59
13.References .....	61
14.Data Tables.....	66

## List of Figures

Figure 1: Trend of directly standardised rate (per 100,000) of suicide in England, 1993-2012 .....	20
Figure 2: Trend of directly standardised rate (per 100,000) of suicide in Cumbria and England, 1993-2012 .....	21
Figure 3: Trend of directly standardised rate (per 100,000) of male suicide in Cumbria and England, 1993-2012 .....	21
Figure 4: Trend of directly standardised rate (per 100,000) of female suicide in Cumbria and England, 1993-2012 .....	22
Figure 5: Directly standardised rate (per 100,000) of suicide in Cumbria and England by age-group, 2010-12 .....	22
Figure 6: Directly standardised rate (per 100,000) of suicide in Cumbria and England aged 15-44, 2010-12 .....	23
Figure 7: Directly standardised rate (per 100,000) of suicide in Cumbria by Local Authority aged 15+, 2010-12 .....	24
Figure 8: Directly standardised rate (per 100,000) of suicide in Cumbria by gender and Local Authority aged 15+, 2010-12 .....	24
Figure 9: Trend of directly standardised rate (per 100,000) of suicide in Cumbria by gender and Local Authority aged 15+, 1993-2012 .....	25
Figure 10: Directly standardised rate (per 100,000) of suicide in Cumbria by national deprivation quintile, 2010-12 .....	27
Figure 11: Trend of directly standardised rate (per 100,000) of suicide in Cumbria in most and least deprived national deprivation quintiles, 2003-05 to 2010-12 .....	27
Figure 12: Directly standardised rate (per 100,000) of suicide in Cumbria by IMD 2010 Income Domain, 2010-12 .....	29
Figure 13: Directly standardised rate (per 100,000) of suicide in Cumbria by rural and urban classification, 2010-12 .....	30
Figure 14: Crude rate (per 100,000) of suicide in Cumbria by marital status and audit year.....	33
Figure 15: Percentage (%) of suicides in Cumbria according to employment status and audit year...	34
Figure 16: Crude rate (per 100,000) of suicide in Cumbria by SOC2010 occupational group and audit year.....	35
Figure 17: Trend of male suicides in Cumbria by method, 2001 – 2012 .....	38
Figure 18: Trend of female suicides in Cumbria by method, 2001-2012 .....	39
Figure 19: Percentage (%) of suicide, open and narrative verdicts in Cumbria by audit year.....	40
Figure 20: Percentage (%) of suicides according to reason for last contact with GP within a year prior to death, by gender .....	45
Figure 21: Percentage (%) of individuals who died by suicide with a mental health diagnosis recorded at the time of death, by age band .....	46
Figure 22: Percentage (%) of individuals who died by suicide according to self-harm history and audit year.....	49
Figure 23: Percentage (%) of males and females who died by suicide with a history of self-harm, by audit year .....	49
Figure 24: Percentage (%) of patient suicides and suicides by individuals with any contact with specialist mental health services, by age-band.....	54

## List of Tables

Table 1: Number and percentage (%) of non-resident suicides in Cumbria by place of death, 2002-2012 .....	30
Table 2: Number of suicides and average age by Local Authority and gender.....	31
Table 3: Number and percentage (%) of suicides according to marital status .....	32
Table 4: Crude rate (per 100,000) of suicide in Cumbria according to SOC2010 occupational group. ....	35
Table 5: Number and percentage (%) of suicide, open and narrative verdicts .....	40
Table 6: Percentage (%) of suicides according to last known contact with GP prior to death, by gender and audit year .....	43
Table 7: Percentage (%) of suicides according to last known contact with GP prior to death, by age-band.....	44
Table 8: Percentage (%) of suicides according to reason for last contact with GP within a year prior to death, by age band .....	45
Table 9: Number and percentage (%) of psychotropic drug prescriptions in the last 12 months, compared to the UK .....	48
Table 10: Percentage (%) of suicides whereby the individual had some previous contact with specialist mental health service, by audit year and gender .....	52
Table 11: Number and percentage (%) of patient suicides whereby the individual had contact with specialist mental health services, by psychiatric status .....	52
Table 12: Number and percentage (%) of patient suicides according to nature of last contact with mental health services.....	54



## **1. Executive Summary**

On average, one person dies each week as a result of suicide in Cumbria. Gathering intelligence about suicide enables the identification of high-risk groups, risk factors and risk escalators, which can inform the development and implementation of local suicide prevention efforts.

An overview of avoidable mortality in Cumbria based on deaths between 2008 and 2012, it was revealed that the rate of avoidable deaths due to injuries (which include suicide) was significantly higher compared than the England average in 2011. Cumbria's Director of Public Health then requested that an in-depth review of suicide be undertaken. A total of 78 suicides were reviewed in detail for this report (58 registered in 2012 and 20 registered in 2013), using coroner information, primary care files, and secondary mental health care files (where applicable).

A key message from this in-depth review is that the circumstances surrounding suicide are often complex characterised by a myriad of risk factors, risk escalators and precipitating factors present in an individual's life with often no single attributable factor.

### **Coroner Related Information**

Hanging was the most common method of male suicide, and drug related poisoning was the most common method of female suicide and this mirrors national findings. Male suicide by hanging has increased considerably over the last 9 years. There were 21 (27%) individuals who were known to have consumed alcohol at the time of death. The proportion of narrative verdicts delivered by Cumbria's coroners has increased more than two-fold since 2006. These commonly make reference to a mental health illness. The increase in narrative verdicts mirrors an increase seen at a national level.

### **Primary Care History**

Most individuals who died by suicide in Cumbria consulted with their GP in the year prior to death (81%), and over one fifth consulted in the week prior. Non-attenders were all male and most were under the age of 44 years. Mental illness and self-harm are well-documented risk factors for suicide, and in Cumbria 49 (63%) of individuals had a diagnosis of a current/on-going mental health condition at the time of death, most commonly depression, and 33 (42%) individuals had a history of self-harm. Alcohol and/or drug misuse/dependence was diagnosed in 13 (17%) individuals, over half of whom had a dual diagnosis (depression). The most commonly prescribed psychotropic drugs were selective serotonin reuptake inhibitors.

## **Psychiatric History**

There were 49 (63%) individuals who had some previous contact with specialist mental health services in their lifetime. Nationally, 33% of individuals who died by suicide in 2011 had contact with mental health services in the 12 months prior to death (patient suicide) and this review found that in Cumbria there were 28 (36%) patient suicides. Of those 49 individuals who had specialist mental health service contact, 17 (35%) had been admitted to a psychiatric in-patient ward in their lifetime. Of the 28 patient suicides, 9 (32%) had been admitted to a psychiatric in-patient ward in the 12 months prior to their death.

## **Emerging Risk Factors**

Alongside risk factors well documented in the literature, three emergent risk factors were noted in Cumbria. The first relates to welfare reform: in 5 (6%) cases a confirmed or potential change to an individual's benefits was described to have caused worry, distress or anxiety in the days prior to death. The second relates to chronic pain and long term conditions: 18 (23%) individuals had a pain condition at the time of their death which often coexisted with a number of other suicide risk factors such as alcohol misuse/dependence. Finally, individuals in contact with the criminal justice system were also identified as a particular risk group, with 13 (17%) individuals being in contact in the 2 months prior to death.

## **Suicide Audit Process**

In Cumbria, it is recognised that although conducting an in-depth review of suicide is a highly resource intensive process, the results are highly valued as a way of informing local suicide prevention strategies and action plans. Whilst carrying out this in-depth review, it became clear that the data collection tool being used could be adapted into a more condensed, practical and time efficient version. The way in which risk and escalating factors are documented for analytical purposes could also be improved.

## **Recommendations**

- To ensure that staff of Citizens Advice Bureau, Housing Associations, Job Centres and GPs that come into contact with individuals in distress as a result of benefit changes and other types of economic loss, know where to signpost individuals to appropriate support services.

- Healthcare professionals to consider the impact of chronic pain and other long term conditions in connection with other known risk factors and escalators when carrying out individual suicide risk assessments.
- To disseminate the findings of this report to the mental health and criminal justice steering group in Cumbria for further investigation and action in relation to individuals in recent contact with the criminal justice system.
- To produce a data collection pro-forma for future suicide audits in Cumbria that allows data to be collected in a more time-efficient manner, but that also does not compromise on the quality of information being produced.
- The production of agency specific reports in a format which can easily be updated following any successive suicide audits. Recommended agency specific reports include firstly the police (due to those in contact with the CJS identified locally and nationally as a risk group); secondly for specialist mental health services (on patient suicide) and thirdly a report for primary care professionals.
- The production of local authority specific summary reports, following interest from councillors in Cumbria.
- In order to make the suicide review process as complete as possible in the future, it is recommended that the primary care file of a deceased patient includes the full electronic GP summary print out.

## **2. Introduction**

In March 2013, the Department of Health released a call to action to reduce the number of avoidable deaths in England.<sup>1</sup> The call to action states for local authorities to lead the change to reducing preventable early death supported by both Public Health England (PHE) and the National Institute for Health and Care Excellence (NICE). An overview of avoidable mortality in Cumbria revealed that avoidable mortality due to injuries (which includes suicide) was significantly higher compared to England in 2011 and contributed to 21% of total potential years of life lost (PYLL).<sup>2</sup> Following the overview report, Cumbria's Director of Public Health requested that an in-depth review of suicide in Cumbria was undertaken, with a particular view to establishing any avoidable factors and common themes surrounding death by suicide of Cumbrian residents.

## **3. National Suicide Prevention Strategy**

The Government's mental health strategy 'No health without mental health' was launched in February 2011 and sets out the vision to improve mental health and wellbeing in England.<sup>3</sup> An implementation framework for the 'No health without mental health' strategy was subsequently published in July 2012 and outlined what local organisations can do to implement the strategy, what national work is being carried out, and also how progress on the strategy aims will be measured.<sup>4</sup> Suicide prevention is widely covered within these strategies and features as a measureable outcome in the 'No health without mental health strategy' under the domain of 'fewer people suffer avoidable harm'. In addition, the publication of the most recent cross-government suicide prevention strategy (released in September 2012) was a product of the 'No health without mental health' strategy. The 'Preventing Suicide in England: a cross-government outcome strategy to save lives' highlights that suicide in England remains one of the leading causes of premature death, and identifies six key areas for action:

- Reduce the risk of suicide in high risk groups
- Tailor approaches to improve mental health in specific groups
- Reduce access to the means of suicide
- Provide better information and support to those bereaved or affected by suicide
- Support the media in delivering sensitive approaches to suicide and suicidal behaviour
- Support research, data collection and monitoring.<sup>5</sup>

The strategy emphasises the local responsibility for coordinating and implementing work on suicide prevention, with multi-agency collaboration and effective partnership highlighted as a one of the key

messages. The strategy supports continuous improvement of knowledge at a local level about groups at higher risk of suicide, and this in depth case file review aims to contribute to Cumbria's knowledge and evidence base in terms of local risk factors.

## **4. Suicide Prevention in Cumbria**

### **4.1 Suicide Prevention Strategies**

Cumbria's first multi-agency suicide prevention strategy was launched in 2009 and a refreshed multi-agency suicide prevention strategy for Cumbria 2014 – 2015 was released in June 2014.<sup>6</sup> This strategy outlines Cumbria's progress since the release of the first multi-agency suicide prevention strategy in 2009 and sets out priorities for future action in Cumbria, which are also based on the six key areas for action that are outlined in the national strategy 'Preventing suicide in England: a cross government outcomes strategy to save lives' document.<sup>6</sup> One of the future priorities for Cumbria outlined within the refresh strategy is to 'continually learn and innovate in light of new knowledge and evidence', specifically in the form of in-depth audits of suicide. Cumbria have previously undertaken two in-depth suicide audits (2006 and 2008), the latter of which was in the form of a psychological autopsy approach.<sup>7</sup>

Cumbria Partnership NHS Foundation Trust also published their first ever suicide prevention plan in November 2013.<sup>8</sup> As stated within this strategy, previously Cumbria Partnership NHS Foundation Trust have focussed on prevention of suicide among high risk patients, but they are currently now providing a wider range of services to a wider population. For example Cumbria Partnership NHS Foundation Trust has contact with every household in Cumbria where there is a child up to the age of 17, thus enabling the trust to improve the mental health and wellbeing in the general population, detect and treat common mental disorders early, as well as providing specialist services to those with severe mental illness and self-harmers. The key themes outlined within the prevention plan were obtained through engagement with both clinicians and service users.

### **4.2 Cumbria Multi-Agency Suicide Prevention Leadership Group**

Members of the multi-agency suicide prevention leadership group (SPLG) meet on a quarterly basis to assure the delivery of the Cumbria Suicide Prevention Strategy and action plan. The group also act as a 'think-tank' both locally and nationally, and have recently joined a European project entitled European Regions Enforcing Actions Against Suicide (EUREGENAS) which focusses on sharing and evaluating examples of good practice in relation to suicide prevention.

A wider reference group, consisting of other relevant and interested individuals and agencies, receive regular updates from the suicide prevention leadership group and meet on an annual basis to review progress and identify priorities for the subsequent year.

### **4.3 EUREGENAS**

The EUREGENAS project brings together eleven regions with diverse experiences in suicide prevention with the aim of contributing to the prevention of suicide in Europe, through the development and implementation of strategies for suicide prevention at a regional level that can be of use to the European Community as examples of good practice.<sup>9</sup> Based on Cumbria's experience of developing and implementing support for people bereaved by suicide, through Survivors of Bereavement through Suicide (SOBS), EUREGENAS have commissioned Cumbria to carry out research into the effectiveness of support services for people bereaved by suicide.

## **5. Aims of the Case File Review of Suicide in Cumbria**

This in-depth case file review of suicide in Cumbria aims to:

- Identify the avoidable factors and common themes surrounding death by suicide of Cumbria residents.
- Build upon previous suicide audits in Cumbria and contribute to and inform local learning.
- Provide separate reports for Cumbria Constabulary, Cumbria Partnership NHS Foundation Trust, and Primary Care professionals.
- Contribute to the Department of Health's 'living well for longer: reducing avoidable mortality' campaign.

## **6. Defining Suicide**

The term suicide describes the deliberate act that intentionally ends one's life. The nationally recognised definition of suicide uses ICD-10<sup>10</sup> codes X60-X84 ('intentional self-harm') and Y10-Y34 ('injury/poisoning of undetermined intent') excluding any deaths under the age of 15 coded between Y10-Y34.<sup>11</sup>

It is important to note that in 2011 changes were made to the ICD-10 coding system, whereby a rule change affected deaths coded as undetermined intent. To understand the impact of the introduction of ICD-10 v2010 on mortality statistics in England and Wales, the Office for National Statistics (ONS) carried out a bridge coding study where a sample of deaths that had previously been

coded using v2001.2 were independently recoded using the new version of ICD-10. The impact of the new version of ICD-10 on suicide figures was not reported in the bridge coding study, but ONS analysis shows that the new version of ICD-10 caused no change in the number of deaths being coded as intentional self-harm (this is to be expected as the rule change did not affect intentional self-poisoning deaths) and only a 2% increase in the number of deaths coded as an event of undetermined intent. However, at the time of ONS analysis not all of the information provided by coroners at registration was available to use, so the bridge coding study results for suicides should also be treated with caution.<sup>12</sup>

## **7. Death Registration Process**

In England and Wales, coroners must investigate all violent and unnatural deaths and an inquest must be held to determine the cause of death. A coroner delivers a verdict of suicide only when there is sufficient evidence beyond reasonable doubt that the injury was self-inflicted and that the deceased had intended to take their own life. A coroner is also able to return an open verdict which is used when the evidence available is not sufficient to conclude that the death was a suicide (beyond reasonable doubt) or an accident (on balance of probability). Open verdicts essentially include those where there may be doubt about the deceased's intentions, some of which are then coded as ICD-10 Y10 – Y34 (injury/poisoning of undetermined intent). In 2012, Coroners' statistics indicated that of the 30,123 verdicts delivered by coroners in England and Wales, 3,515 were suicides and 2,059 were open verdicts (some of which correspond to injury of undetermined intent) and 4,634 were 'unclassified verdicts' which include narrative verdicts.<sup>13</sup>

Registration of death takes place after the coroners have delivered their verdicts and the local registrar will record the cause of death on the death certificate as established by the coroner. This information is then forwarded to the ONS where it is then coded using ICD-10 classifications. In recent years there has been a rise in narrative verdicts being delivered by coroners. Narrative verdicts are those when a coroner records a factual record of how and in what circumstances the death occurred. The ONS have previously expressed their concerns that in some cases it can be difficult to code the underlying cause of death from information provided in the narrative.<sup>14</sup> Following this, the Ministry of Justice conducted an analysis for the period 2007 – 2011 to examine what verdicts were included in the 'unclassified verdicts' category. The analysis showed that around six per cent of 'unclassified verdicts' could indicate suicide.<sup>13</sup>

## **8. Methodology**

### **8.1 Caldecott Approval and Data Protection**

At the onset of this case file review, guidance and permission for data collection were sought from the Head of Information Governance in Cumbria's Partnership NHS Foundation Trust and the Caldecott Guardian from the NHS Cumbria Clinical Commissioning Group (CCG).

Due to the sensitive nature of the project and data collection variables, it was essential to ensure that the data collection process and the subsequent use of data complied with the Data Protection Act 1998 (DPA). The DPA principle states that personal data shall be processed fairly and lawfully,<sup>15</sup> and the purpose of this project specifically meets condition 6 of schedule 2 and condition 8 of schedule 3 of the DPA:

- Condition 6 of schedule 2: the processing is necessary for the purposes of legitimate interests pursued by the data controller.<sup>15</sup>
- Condition 8 of schedule 3: the processing is necessary for medical purposes and is undertaken by a health professional.<sup>15</sup>

The DPA is fundamentally concerned with 'personal data', and personal data has to be about a living person. This means that DPA does not apply to mortality or other records about the deceased, although such data could still be protected by confidentiality or other legal rules.<sup>16</sup>

It should also be noted that coroners' inquests are generally held in public and their findings often reported by the media, therefore much of the information regarding suicides is already available in the public domain and is deemed of public interest.<sup>17</sup>

Whilst obtaining and using data within this report, the NHS code of practice on confidentiality guidelines were also adhered to.<sup>18</sup>

### **8.2 Case File Selection**

As noted in chapters 5 and 6, suicides are classified using ICD-10 codes X60-X84 and Y10-Y34 and are coded by the ONS based on the death certificate. When the data collection phase of this report began, the delivery of Public Health had moved into Cumbria's local authority. With the transition also came some changes to the way in which ONS provide mortality data. Previously, Public Health were able to obtain a monthly deaths database from the ONS public health mortality file (PHMF) which included patient identifiers which are required for audit purposes. Since the transition in April 2013, Public Health in Cumbria no longer receives a monthly deaths dataset that includes patient



identifiers. The only source of deaths data that Cumbria's Public Health department still currently receive on a regular basis with patient identifiers included are the weekly death registrations that are sent electronically from local registrars. The weekly death registrations are based upon an individual's death certificate and therefore the cause of death is yet to be coded by ONS for national reporting. Nevertheless, coroner conclusions are included and provide a good indication of suicides. A cross-referencing exercise found that the number of suicides identified from death registrations in 2012 matched the number that was released by the ONS. This suggests that narrative verdicts in Cumbria are therefore being translated by ONS accurately.

The case file selection for the in-depth review of suicide in Cumbria was therefore determined using both the ONS PHMF and weekly death registrations:

- Deaths coded as suicide registered between 01 Jan 2012 to 31 Dec 2013 were obtained from the ONS PHMF.
- Deaths with an indication of probable suicide based on verdict/conclusion as noted on the death registration, from between 01 Apr 2013 to 18 Aug 2013. (Death registrations from 01-Jan 2013 to 31 Mar 2013 were unavailable at the time of data collection).

As briefly noted earlier, it is important to recognise that when using weekly death registrations it is not always clear whether the cause of death and conclusion will eventually be identified as a suicide by ONS and therefore numbers locally may then potentially differ to figures released nationally. In the initial stage of data collection, a total of 88 deaths were selected as suicides or probable suicides, however 10 cases were eventually excluded as it was revealed through the case file review process that these individuals were in fact either non-residents or that the death was not by suicide. However, the number of suicides that were eventually verified from the weekly death registrations for 2012 in this case file review does correspond to the nationally reported number for Cumbria.

In total, 78 suicides were reviewed in detail and are included within the analysis of this report (58 registered in 2012 and 20 registered in 2013). Where possible, findings were compared to results from audits of suicide in Cumbria relating to 2006 and 2008 where the same data collection method was adopted. In 2006, 49 suicides were reviewed (33 male and 16 female) and in 2008, 53 suspected suicides were reviewed (37 male and 16 female).

### **8.3 Data Collection**

Data collection was carried out with assistance from a health improvement specialist in Cumbria's Public Health team, a foundation year 2 (FY2) Doctor, and a specialty trainee 4 (ST4) Psychiatrist

from Cumbria NHS Partnership Trust. This represents a multi-disciplinary approach as encouraged in the national and local suicide prevention strategies.

Data were collated from both routine (ONS PHMF) and non-routine sources (coroner files and primary and secondary care files). Information on the deceased's demographic details, primary care and psychiatric history (if applicable), and coroner related information were sought in order to help understand the complex and multifactorial causal pathways for suicidal risk across the life course in Cumbria.

Data were collated using an adapted audit pro-forma that was based on the National Institute for Mental Health in England (NIMHE) instrument that was originally piloted across the North West in 2006 and when then became the basis of a standard tool used across England.<sup>19</sup>

### **8.3.1 Coroner Information**

There are two coroner areas in the Cumbria jurisdiction consisting of the South and East area (with records located in Barrow in Furness) and the North and West (with records located in Cockermouth). Permission was obtained from both coroners to view files for all suicides and open verdicts within the specified time period. All coroner files were viewed with the assistance of a Health Improvement Specialist, and a number of files were also viewed with the assistance of an FY2 doctor and an ST4 Psychiatrist.

### **8.3.2 Primary Care History**

The primary care records were located in two different areas. North and West resident files were located in the Medical Records Registration Department in Carlisle, whereas South and East resident files were located at the Lancashire and South Cumbria Agency (LaSCA) in Preston. All primary care files were viewed with the assistance of an FY2 doctor and a health improvement specialist.

### **8.3.3 Psychiatric History**

Arrangements were made with the records department at Cumbria Partnership NHS Foundation Trust to view records of individuals who had been in contact with specialist mental health services. All files were sent to one location and were viewed with the assistance of an ST4 Psychiatrist.

### **8.3.4 Data Analysis**

Quantitative data collected from the ONS PHMF, the coroner files, and the primary and secondary health care were collated into an excel spread sheet (names were anonymised and only a case

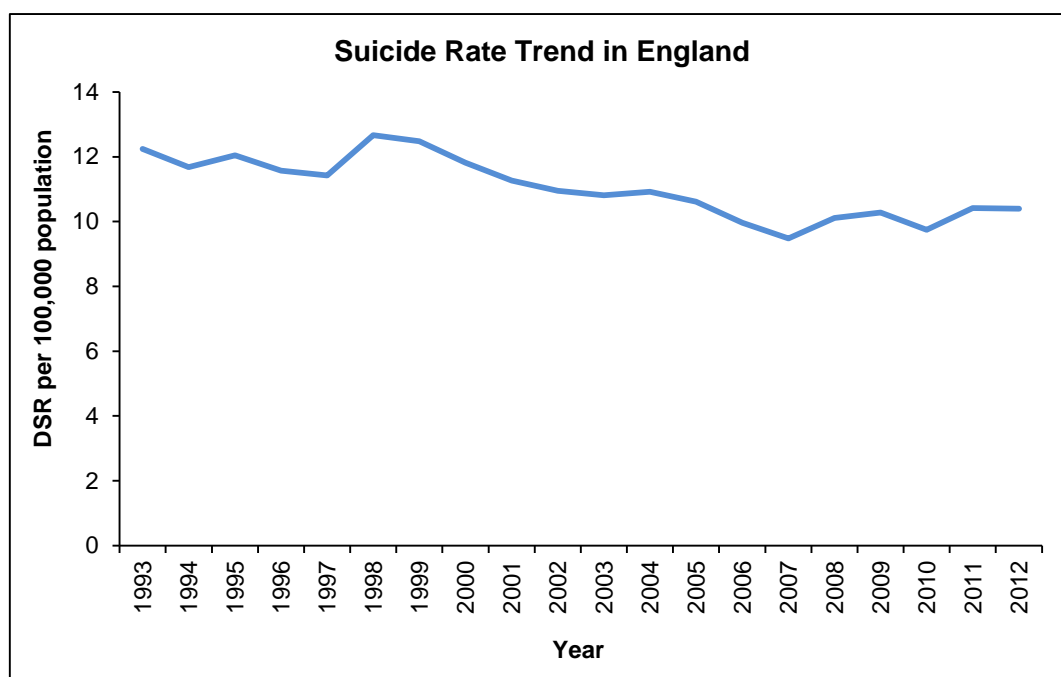
number was used to identify each suicide). The data were analysed descriptively and are mainly reported as numbers and percentages.

Any narrative factors that were deemed to be significant by the researchers from the medical and coroner files were noted using the audit tool and summarised into a timeline. For each case that had been in contact with secondary mental health services in the year before death (patient suicide), an A4 sized summary was compiled that consisted of a brief description of the details and circumstances of death (e.g. age, sex, method, and mental illness), and a summary of possible risk factors and triggers of suicide and any significant/critical life events. Following this process, an individual formulation was made for each patient suicide, mapping out data deemed to be significant into a chronological format. The results of this analysis will be produced in a separate report and submitted for publication in the Cumbria Partnership Journal of Research, Practice and Learning.

## **9. The Demography of Suicide in England**

In order to provide a current picture of suicide nationally, this chapter presents the most recent data on suicide in England which is useful for benchmarking the suicide rates experienced in Cumbria. The 2012 suicide rates are the most recently published and validated statistics and were released in October 2013; these are available from the Health and Social Care Information Centre (HSCIC) compendium of population health indicators.<sup>20</sup>

In 2012 there were 10.40 deaths from suicide per 100,000 population in England, which was similar to the rate of 10.42 experienced in 2011. As demonstrated in figure 1, the pattern of suicide death rates in England declined between 1998 and 2007, however since 2008 the suicide rate has slowly been increasing. The first annual one-year report on the cross-government outcomes strategy to prevent suicide highlights that a number of studies have demonstrated an association between the areas of England that have been worst affected by unemployment during the recent financial crisis and increased rates of suicide.<sup>21</sup> Between 2008 and 2010, there were approximately 800 more suicides among men and 155 more among women than would have been expected based on historical trends.<sup>22</sup> Furthermore, a rise in poor health status associated with the recession has also been found not only for the unemployed, but also among people who remained employed.<sup>23</sup>



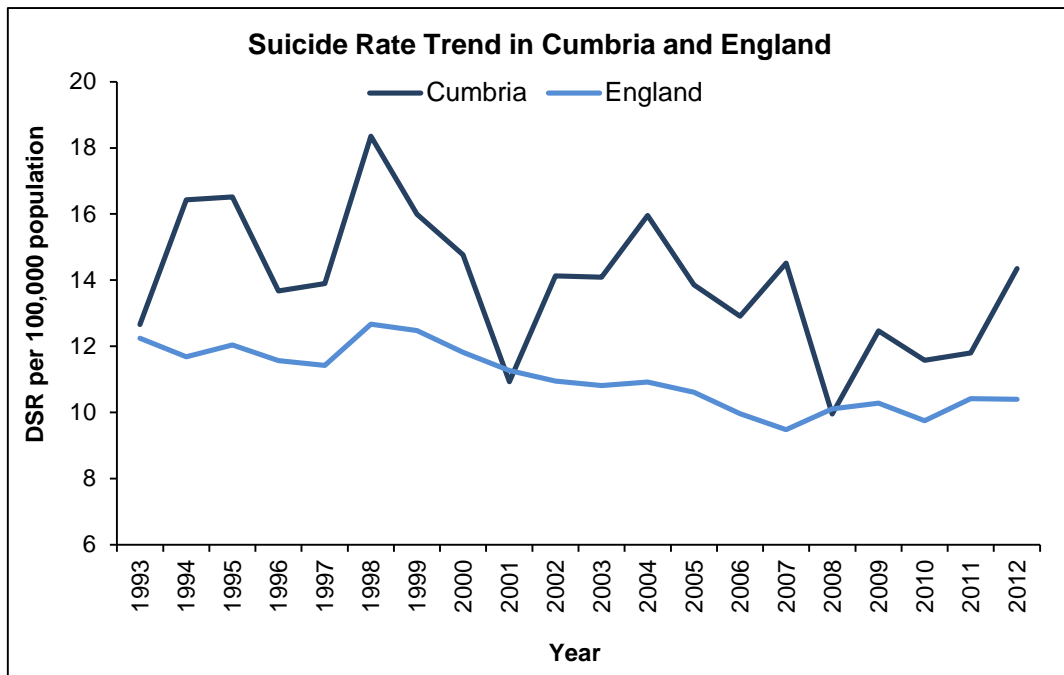
**Figure 1: Trend of directly standardised rate (per 100,000) of suicide in England, 1993–2012 (Source: HSCIC)**

Nationally, the 2012 male suicide rate was more than three times higher than the female suicide rate (16.43 and 4.53 per 100,000 for males and females respectively). The ONS report that the highest suicide rates occurred among males aged 40-44 and that the most common method of suicide was hanging, strangulation and suffocation for males, and poisoning for females.<sup>24</sup>

## 10. The Demography of Suicide in Cumbria

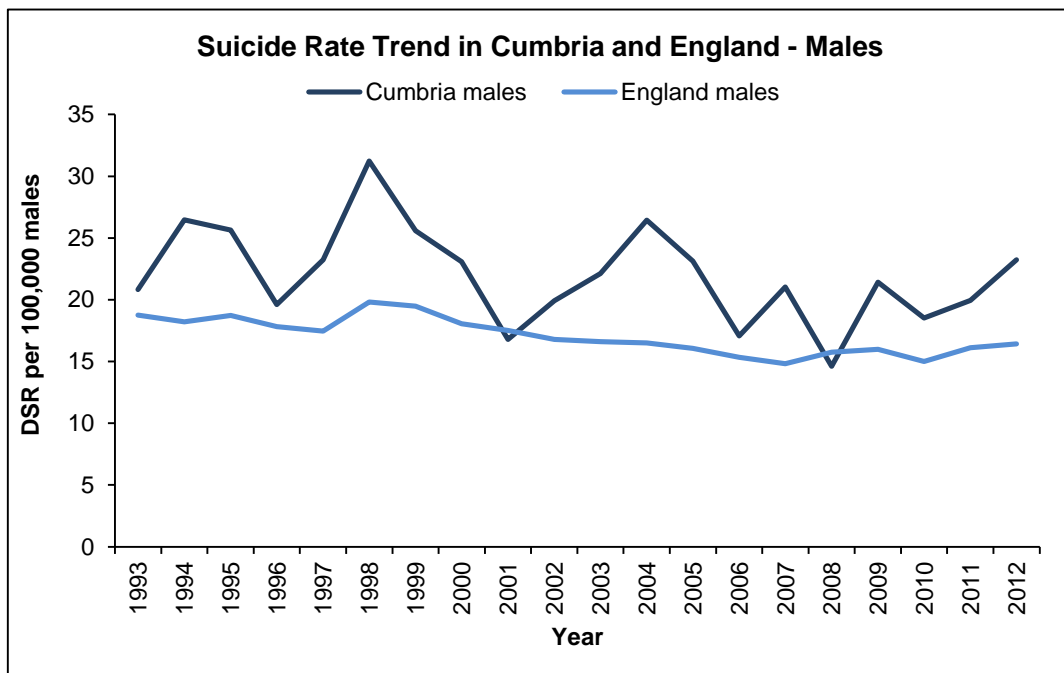
This chapter provides some context to the picture of suicide in Cumbria, exploring trends by gender and local authority of residence and provides analysis by deprivation and rural/urban area classification. Data used in this chapter are taken from the HSCIC and the ONS PHMF.

In 2012, the Cumbria suicide rate was 14.35 per 100,000 population, not only was this higher compared to the national rate of 10.40 per 100,000 but it was also an increase from the rate of 11.80 during the previous year (2011). Figure 2 shows the trend of the suicide rate in Cumbria between 1993 and 2012 compared to the trend for England. As depicted, the Cumbria suicide rate has been higher compared to nationally each year with the exception of 2001 and 2008. Since 2008 the suicide rate trend in Cumbria has increased more sharply compared to England. Confidence intervals were unavailable for these data.

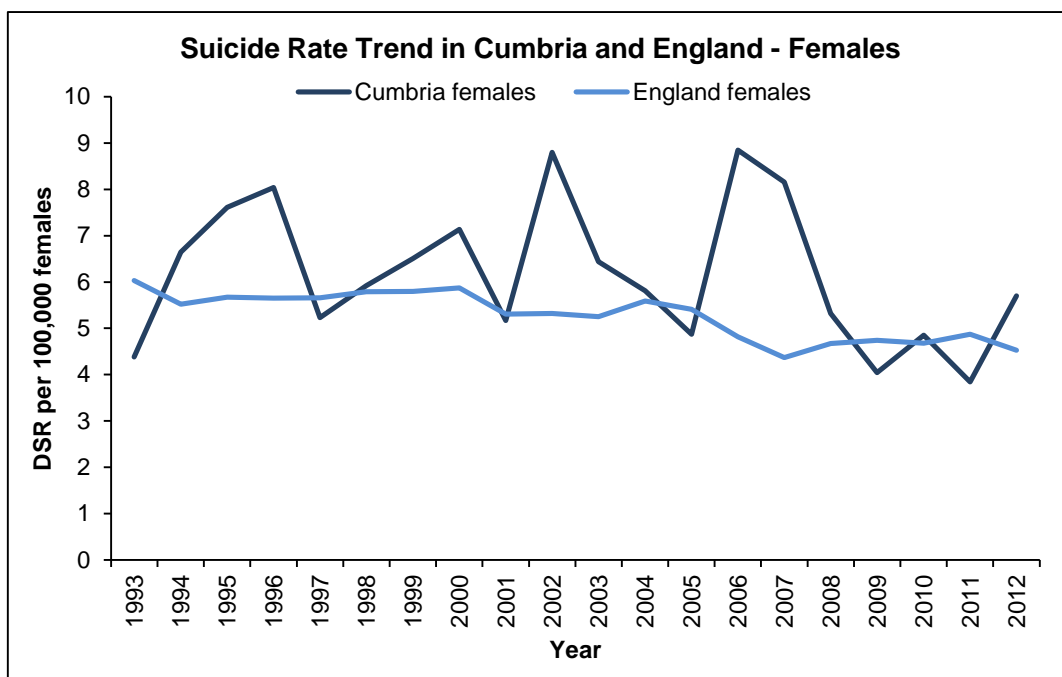


**Figure 2: Trend of directly standardised rate (per 100,000) of suicide in Cumbria and England, 1993-2012 (Source: HSCIC)**

The 2012 male suicide rate was over four times higher compared to the female suicide rate in Cumbria (23.23 and 5.70 per 100,000 for males and females respectively). Figures 3 and 4 illustrate the male and female suicide trends in Cumbria compared to England between 1993 and 2012. Confidence intervals were unavailable for these data.

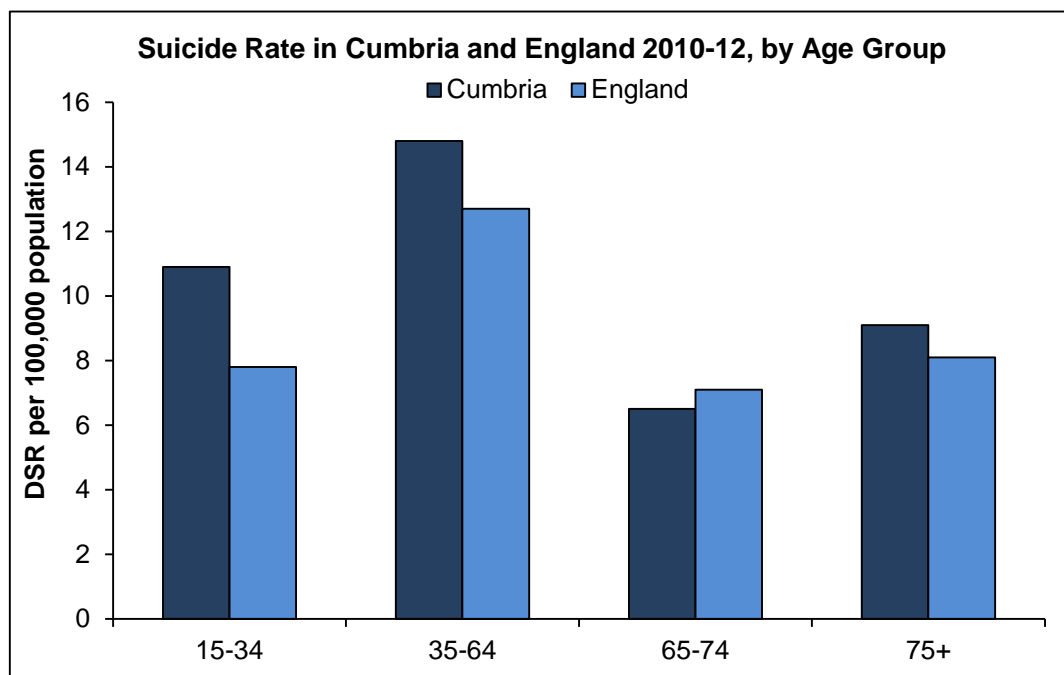


**Figure 3: Trend of directly standardised rate (per 100,000) of male suicide in Cumbria and England, 1993-2012 (Source: HSCIC)**



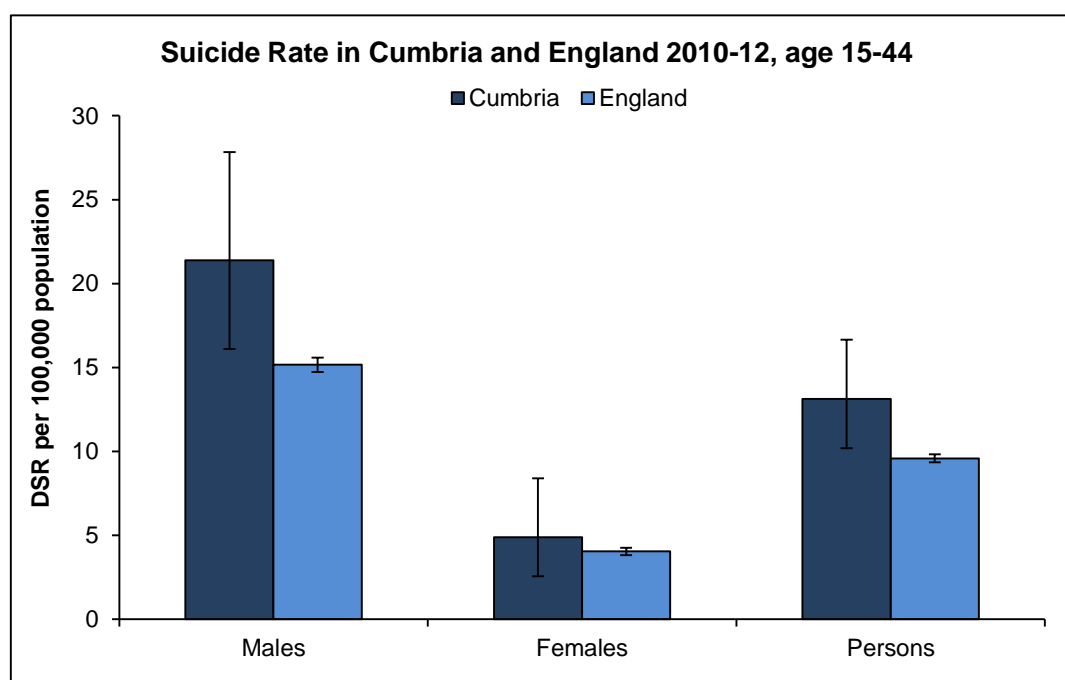
**Figure 4: Trend of directly standardised rate (per 100,000) of female suicide in Cumbria and England, 1993-2012 (Source: HSCIC)**

Figure 5 shows the variation in suicide rates according to age-band in 2010-12. In Cumbria, the highest suicide rate occurred among those aged 35-64 at 14.80 suicides per 100,000 population. Cumbria had a higher suicide rate for all age-groups than England with the exception of those aged 65-74. Confidence intervals were unavailable for these data.



**Figure 5: Directly standardised rate (per 100,000) of suicide in Cumbria and England by age-group, 2010-12 (Source: HSCIC)**

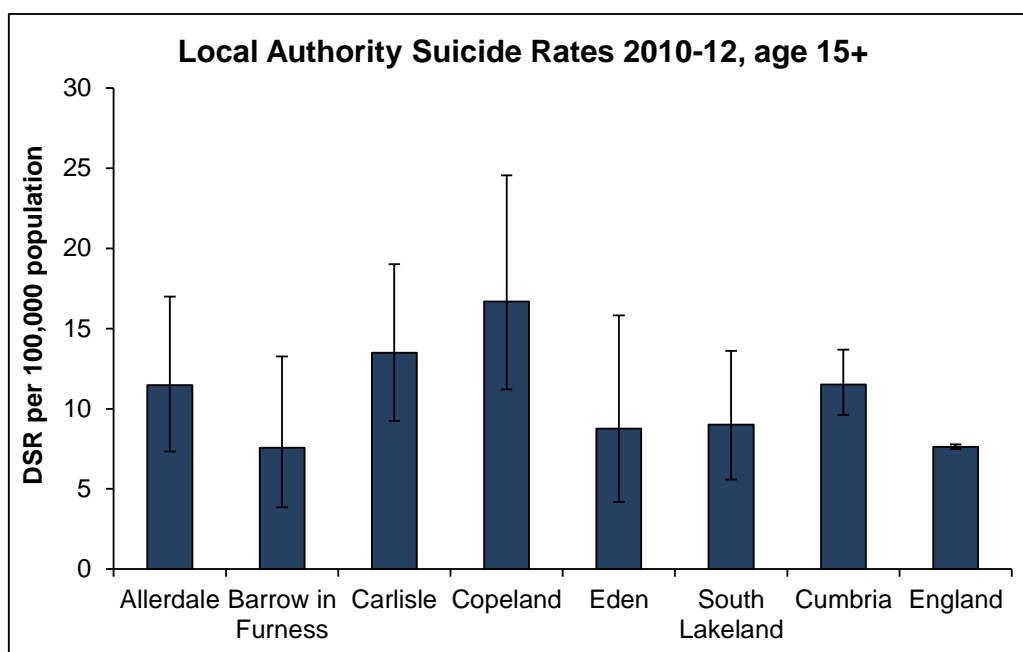
Rates of suicide in the younger population (aged 15-44) are also available, the most recent of which relate to 2010-12. As depicted in figure 6, Cumbria had a significantly higher rate of suicide among this age group compared to in England for all persons and males. The male rate of suicide in Cumbria among young people was also significantly higher compared to females of the same age (21.39 and 4.89 per 100,000 for males and females respectively).



**Figure 6: Directly standardised rate (per 100,000) of suicide in Cumbria and England aged 15-44, 2010-12 (Source: HSCIC)**

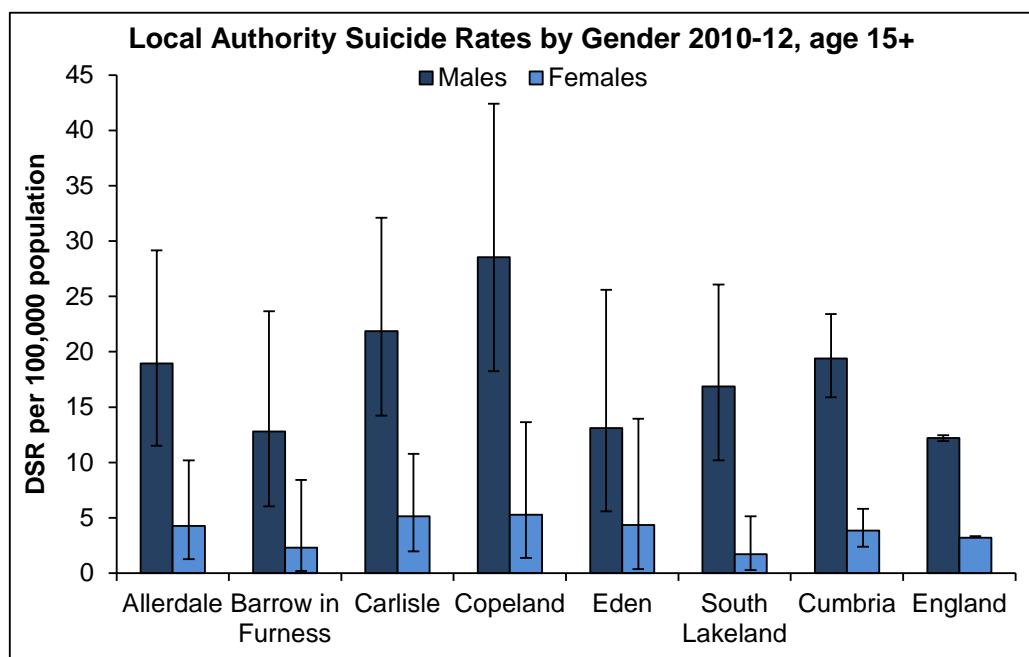
### 10.1 Local Authority Suicide Rates in Cumbria

Figure 7 shows that in 2010-12 the suicide rate in Copeland local authority was the highest across Cumbria at 16.69 suicides per 100,000 population, this was 2.2 times higher than the England rate of 7.63 suicides per 100,000 population and this difference was significant. Carlisle had the second highest rate at 13.49 suicides per 100,000 followed by Allerdale with 11.48 suicides per 100,000 population. This highlights that suicide was higher in the North and West of the county. Copeland and Carlisle both had a significantly higher rate of suicide compared to the national rate.



**Figure 7: Directly standardised rate (per 100,000) of suicide in Cumbria by Local Authority aged 15+, 2010-12 (Source: HSCIC)**

As depicted in figure 8, the disparity between the 2010-12 male and female suicide rate in Cumbria was evident across all local authority areas. Copeland had both the highest male and female rates in Cumbria at 28.53 and 5.28 suicides per 100,000 males and females respectively. For Cumbria as a whole, the 2010-12 male rate of suicide was 5.1 times higher than the female rate of suicide (12.2 and 3.2 per 100,000 males and females respectively).



**Figure 8: Directly standardised rate (per 100,000) of suicide in Cumbria by gender and Local Authority aged 15+, 2010-12 (Source: HSCIC)**



## 10.2 Trend of Local Authority Suicide Rates in Cumbria

Due to the smaller number of suicides at a local authority level, the annual trend of suicide rates are sporadic as shown in figure 9. Allerdale and Carlisle local authorities experienced a decline in the rate of suicides between 2011 and 2012, whilst all other local authorities in Cumbria experienced an increase in the rate. The increase in South Lakeland and Copeland was more pronounced, especially among males. Confidence intervals were unavailable for these data.

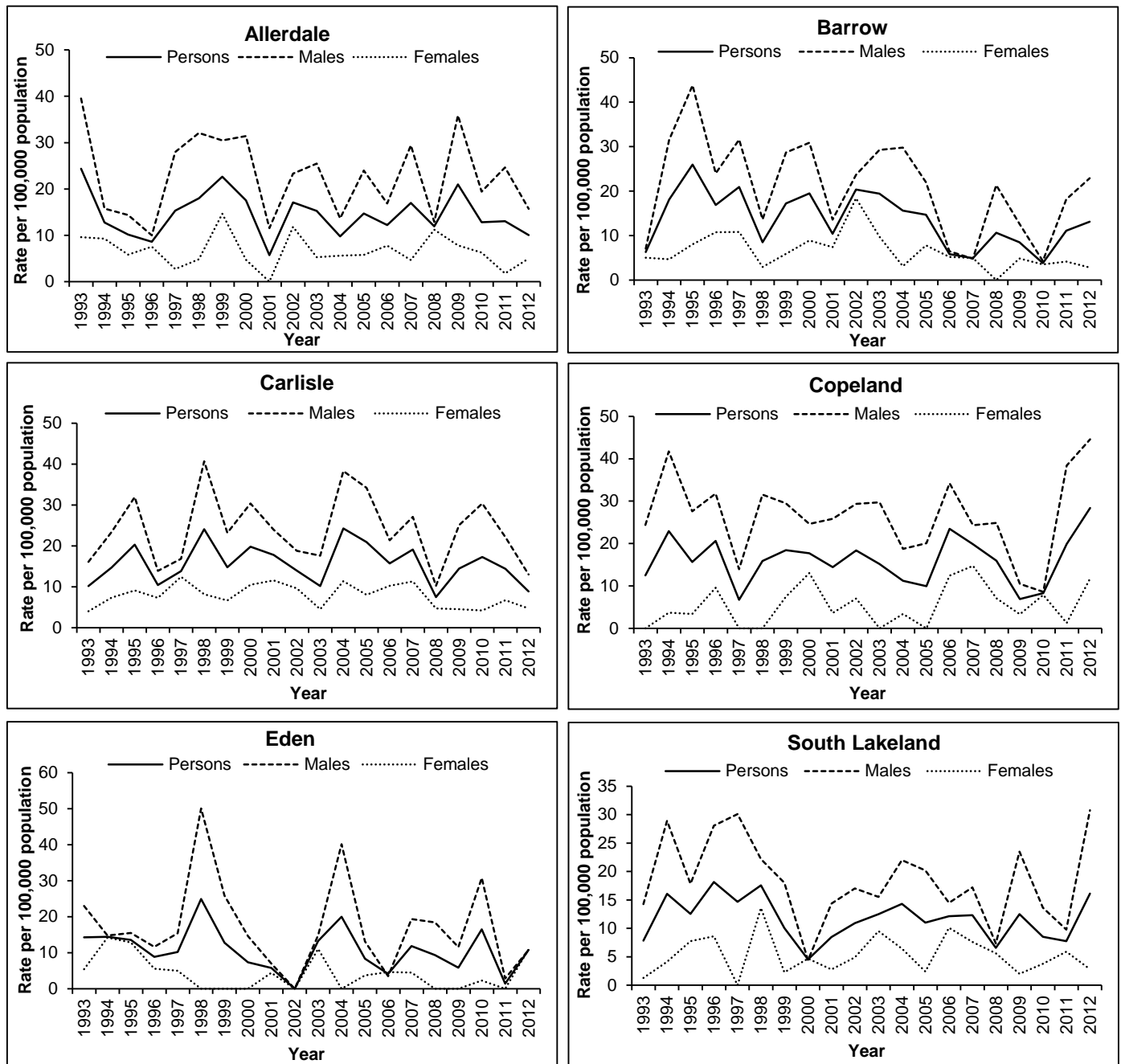


Figure 9: Trend of directly standardised rate (per 100,000) of suicide in Cumbria by gender and Local Authority aged 15+ 1993-2012 (Source: HSCIC)

### **10.3 Years of Life Lost due to Suicide in Cumbria**

A considerable number of years of life are lost as a result of death from suicide in Cumbria and as previously noted this important contributor to overall avoidable premature mortality in Cumbria. Premature mortality is defined as death under the age of 75 years. Potential years of life lost (PYLL) are an estimate of the average years a person would have lived if they had not died prematurely.

During 2010-12, there were a total of 4,187 PYLL in Cumbria as a result of suicide, accounting for 6.2% of total PYLL in Cumbria.<sup>20</sup> With a total of 138 suicides under the age of 75 in Cumbria during 2010-12, this means that the average number of years of life lost for each suicide was 30 years.

### **10.4 Deprivation and Suicide in Cumbria**

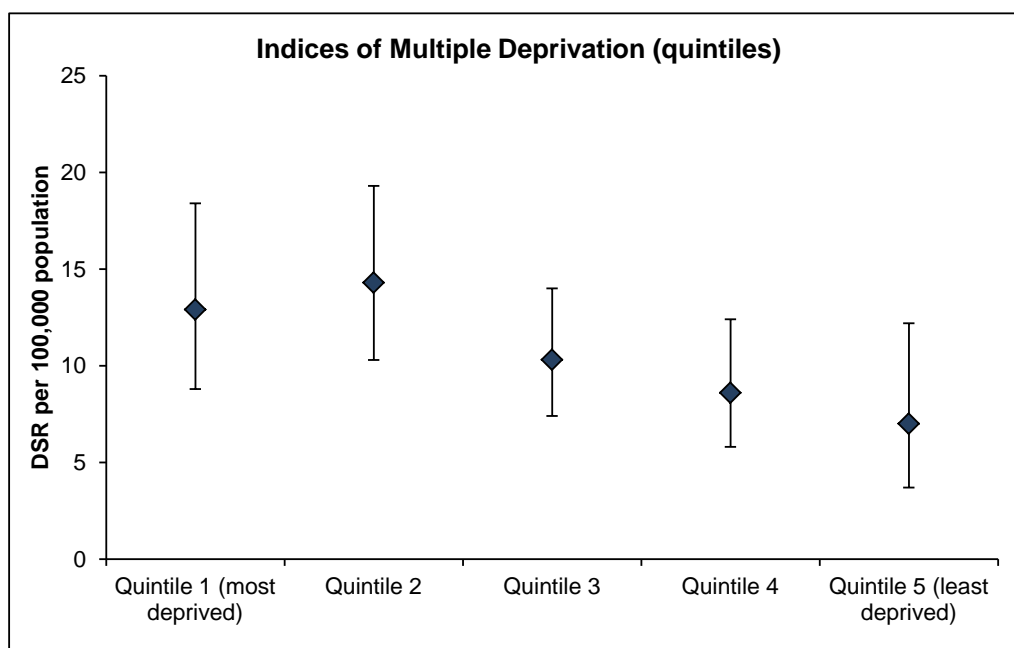
Socio-economic deprivation is an identified risk factor for suicidal behaviour, with unemployment, low income and educational attainment all having an association with suicide mortality.<sup>25</sup>

The English Indices of Multiple Deprivation (IMD 2010)<sup>26</sup> uses 38 separate indicators that cover seven domains (income, employment, health and disability, education skills and training, barriers to housing and other services, crime, and living environment) which are combined, using appropriate weights to construct the IMD 2010. The IMD 2010 is an overall measure of multiple deprivation experienced by people living in a given area and is calculated for every Lower Super Output Area (LSOA) in England. The IMD 2010 scores can then be used to rank every LSOA in England according to their relative level of deprivation. When ranked, the LSOAs can be divided into fifths (referred to in this report as deprivation quintiles). The higher the IMD score the more deprived the LSOA is, thus meaning that the fifth of LSOAs with the lowest IMD scores constitute quintile 1. Conversely the lower the IMD score the less deprived the LSOA is, thus meaning that the fifth of LSOAs with the highest IMD scores constitute quintile 5.

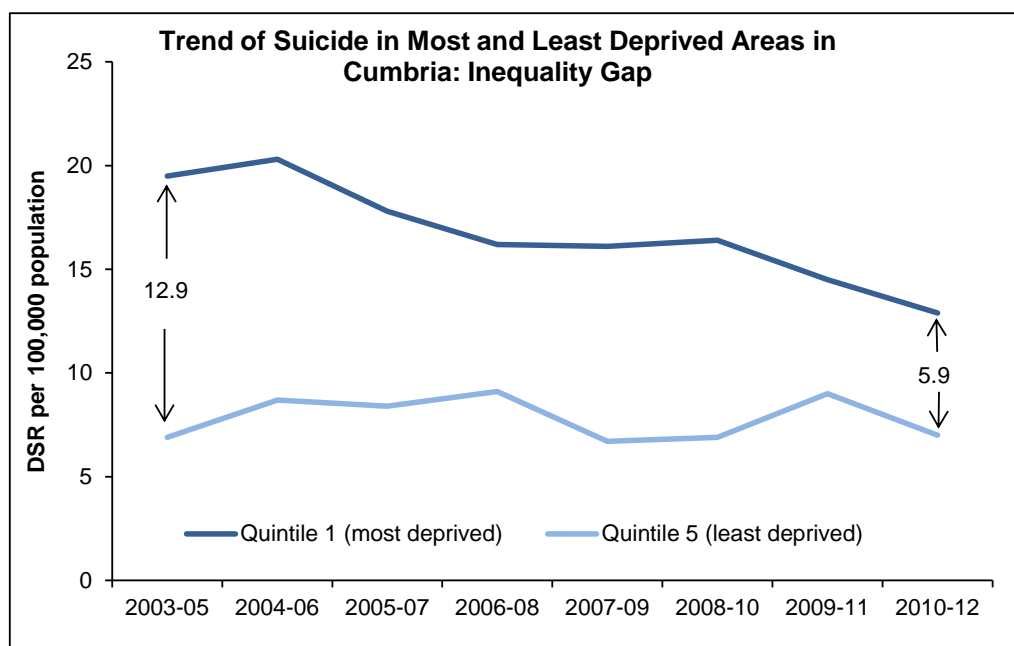
Figure 10 shows the 2010-12 rate of death from suicide in Cumbria according to national IMD 2010 quintile. The highest rate of 14.3 suicides per 100,000 was observed in quintile 2, and although there is a general gradient in the decline of suicide rates in accordance with the level of deprivation, there were however no significant differences.

Over the last eight years, the gap in mortality from suicide between the most and least deprived areas in Cumbria has reduced, shown in figure 11. In 2003-05 there was a difference of 12.6 suicides per 100,000 population between quintile 1 and quintile 5; this has now reduced by more than half to a difference of 5.9 suicides per 100,000 population. A reduction in the gap of suicide mortality between the most and least deprived areas in Cumbria is likely to be a reflection of the

overall reduction in suicide mortality that has been experienced in the county since 2003-05. However, as the overall suicide rate in Cumbria has generally increased since 2008-10, a continued reduction in the inequality gap between the most and least deprived areas since 2008-10 could suggest that suicide is increasing among those residing in other areas of Cumbria, perhaps as result of the economic recession.



**Figure 10: Directly standardised rate (per 100,000) of suicide in Cumbria by national deprivation quintile, 2010-12 (Source: PHMF, IMD 2010 & ONS Population Estimates)**



**Figure 11: Trend of directly standardised rate (per 100,000) of suicide in Cumbria in most and least deprived national deprivation quintiles, 2003-05 to 2010-12 (Source: PHMF, IMD 2010 & ONS Population Estimates)**

### 10.4.1 Income Deprivation

As previously noted, the recent financial crisis has been associated with an increase in the suicide rate in the areas of England that were most affected by unemployment.<sup>21,22</sup>

The Income Deprivation domain of the IMD 2010<sup>26</sup> measures the proportion of the population in an area experiencing deprivation in relation to low income. A combined count of income deprived individuals per LSOA is then calculated by summing the following five indicators:

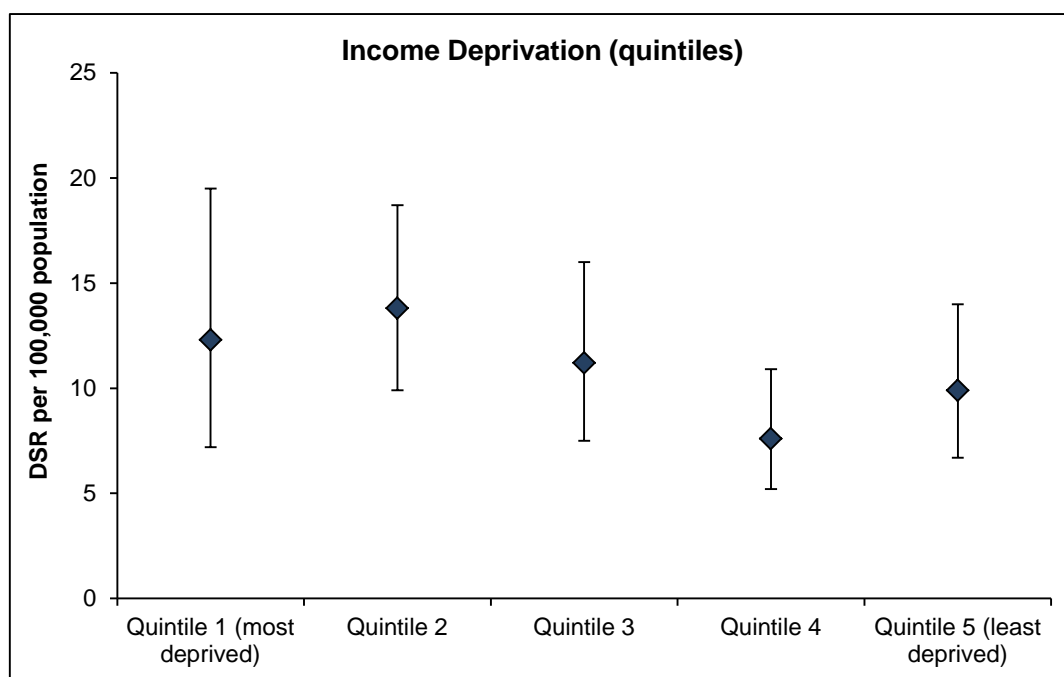
- Adults and children in Income Support families
- Adults and children in Income-Based Job Seeker's Allowance families
- Adults and children in Pension Credit (Guarantee) families
- Adults and children in Child Tax Credit families (who are not in receipt of Income Support, Income-Based Jobseeker's Allowance or Pension Credit) whose equivalised income (excluding housing benefits) is below 60 per cent of the median before housing costs<sup>\*</sup>
- Asylum seekers in England in receipt of subsistence support, accommodation support, or both<sup>†</sup>

As illustrated in figure 12, there was only a very slight overall gradient between the 2010-12 rate of suicide in Cumbria and income deprivation quintile and no significant differences were revealed.

---

<sup>\*</sup> Child Tax Credit is payable to families who are either: (i) claiming out-of-work benefits, or (ii) in work and claiming Working Tax Credit, or (iii) claiming neither out-of-work benefits nor Working Tax Credit but whose household income does not exceed the Child Tax Credit income threshold.

<sup>†</sup> Excludes unaccompanied asylum seeking children supported by local authorities (estimated to be approximately 4,600 in September 2008), and those in initial accommodation (1,280 at the end of September 2008).



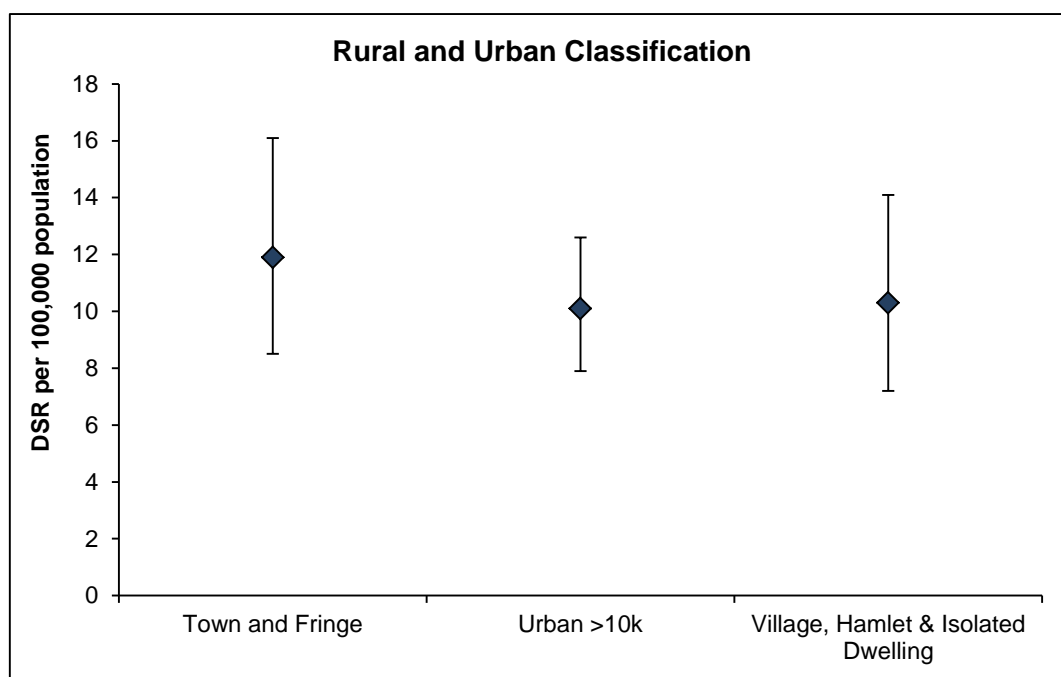
**Figure 12: Directly standardised rate (per 100,000) of suicide in Cumbria by IMD 2010 Income Domain, 2010-12 (Source: PHMF, IMD 2010 & ONS Population Estimates)**

### 10.5 Rural and Urban Classification and Suicide in Cumbria

The ONS rural and urban classification refers to the form or structure of an area and is determined by the population density of that particular area and its wider surroundings. There are three area classifications: 'urban >10k' which relates to urban settlements with a population greater than 10,000, 'town and fringe' which relates to small towns and fringe areas that are located within a rural domain, and 'village, hamlet and isolated dwellings' which refer to other areas within a rural domain.

Cumbria is one of the most rural counties in the country, and less than half of the Cumbrian population live in urban areas compared with 80% in England and 90% in the North West.<sup>27</sup>

Previously during 2002-06, analysis showed that urban areas of Cumbria had a significantly higher rate of suicide compared to village, hamlet and isolated dwelling areas (12.6 and 6.8 per 100,000 respectively).<sup>28</sup> However, as illustrated in figure 13, more recent data relating to 2010-12 suggests that rates of suicide by rural and urban classification in Cumbria may have levelled out, with no significant differences between them.



**Figure 13: Directly standardised rate (per 100,000) of suicide in Cumbria by rural and urban classification, 2010-12 (Source: PHMF & ONS Population Estimates)**

### 10.6 Non-Resident Suicides in Cumbria

Over the last 11 years (2002 – 2012) there have been 43 non-resident suicides occurring in Cumbria, this is an average of 4 non-resident suicides per year. The highest number of non-resident suicides occurred during 2012 when there were 8. Suicides of non-residents commonly occurred in rural or isolated areas within the county, such as fells, hills, footpaths and woods or lakes, sea or beaches (table 1).

**Table 1: Number and percentage (%) of non-resident suicides in Cumbria by place of death, 2002-2012 (Source: PHMF)**

Place of death	Number	Percentage (%)
Fell, hill, wood, footpath	12	28%
Road or motorway	7	16%
Other building	7	16%
Lake, sea, beach	5	12%
Car park	4	9%
Railway line/station	4	9%
NHS premises	4	9%
<b>Total</b>	<b>43</b>	<b>100%</b>

A report that was published in 2009, which reviewed non-residential and outdoor suicide locations in the North West, revealed that parks and open spaces are particular high risk areas for Eden and South Lakeland, and that Railways are high risk areas for Eden and Carlisle.<sup>29</sup>

## 11. In Depth Case File Review Results

This chapter presents the results of the in-depth case file review of suicide in Cumbria. As noted earlier, the case file review included 78 suicides registered in Cumbria between 01 Jan 2012 – 31 Dec 2012 and 01 Apr 2013 – 18 Aug 2013 (58 suicides registered in 2012 and 20 suicides registered in 2013). Males accounted for 77% of suicides (n=60) whilst females accounted for 23% (n=18) over the review period. The average age at the time of death was 51 years (44 years for males and 69 years for females).

Table 2 presents the total number of suicides according to local authority of residence and gender, along with average age. Eden had the youngest average age for both males and females; however caution is required when analysing this small numbers of overall deaths by suicide.

**Table 2: Number of suicides and average age by Local Authority and gender**

	Total Number			Average Age		
	Persons	Males	Females	Persons	Males	Females
Allerdale	13	10	3	52	49	61
Barrow	11	9	2	42	39	57
Carlisle	11	7	4	45	35	61
Copeland	19	14	5	47	46	50
Eden	6	4	2	39	35	46
South Lakeland	18	16	2	55	54	66
Cumbria	78	60	18	51	44	69

The first section below presents the demographic characteristics of the 78 suicides reviewed, the second section relates specifically to coroner information, the third section outlines information relating to primary care, and the fourth section presents information relating to those with a psychiatric history.

### 11.1 Demographic Details

Demographic details could be drawn from numerous sources depending upon completeness of the case files and accessibility to information. For example, in some cases primary care records could not be obtained and therefore certain information was drawn from coroner or psychiatric files, or for some individuals a lack of contact with primary care meant that information was often unknown at the time of death.

### Summary Findings: Demographic Details

- Of the 78 suicides, 50% of individuals were 'never married' at the time of death (5 of whom were known to be in a relationship).
- In 25 (32%) cases there was evidence of a recent relationship/marital problems or a relationship breakdown.
- The rate of suicide was highest among those who were separated, and this has increased over each audit year.
- Over a quarter (26%) were employed at the time of death
- The proportion of retired individuals who die by suicide has increased.
- The highest rate of suicide was among those in 'Process, Plant and Machine Operative' occupations, including jobs such as drivers and machinists at 61.1 per 100,000.
- 7 individuals were known to have driving jobs, which accounted for 8% of all suicides reviewed.
- 19 (24%) individuals had contact with the CJS in their lifetime, and of those 68% had contact with the CJS in the 12 months preceding death.

#### 11.1.1 Relationship Status

Studies examining relationship status and suicide have generally been consistent in their findings, revealing that marriage can be a protective factor against suicide. However there is variation in the extent to which suicide is higher among never married, separated, or divorced and widowed populations.<sup>30,31</sup> A change in marital status, also referred to as 'marital transition', is a life-event which can affect a person's risk for suicide. Roškar et al found that the first year after a marital change (becoming widowed, getting divorced, and getting married) is critical for elevated suicidal risk, in particular for older people.<sup>32</sup>

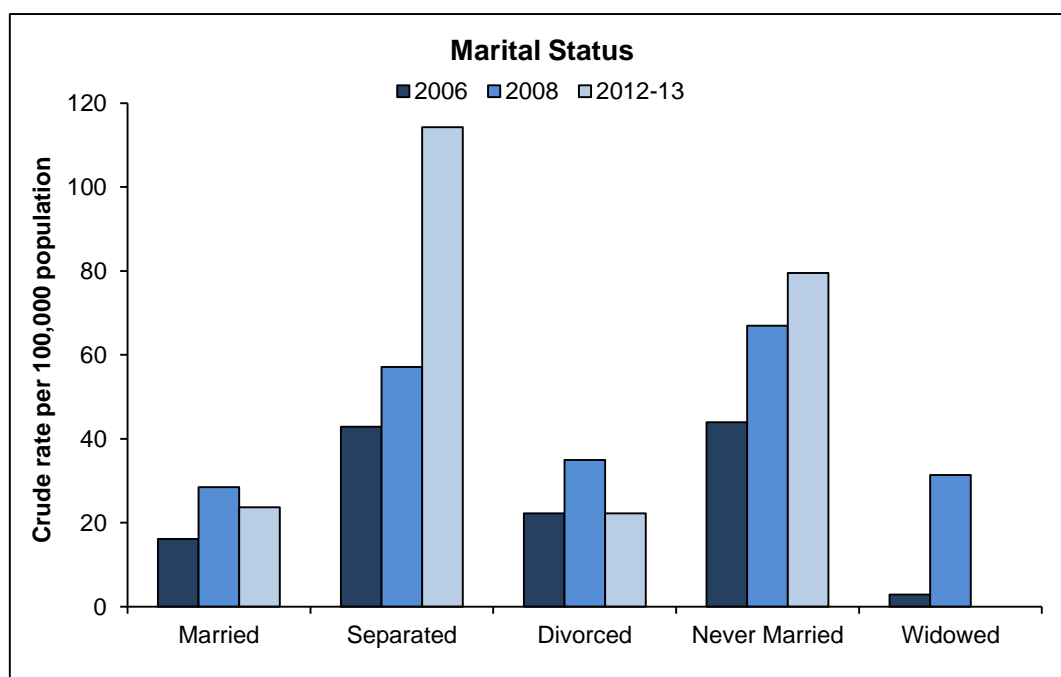
Of the 78 suicides reviewed, half of individuals were never married at the time of death, whilst almost a third were known to be married (table 3). In 25 (32%) cases there was evidence of relationship/marital problems or a recent relationship breakdown (in the last 12 months).

**Table 3: Number and percentage (%) of suicides according to marital status**

Marital Status	Number	%
Never Married*	39	50%
Married	24	31%
Separated	8	10%
Divorced	7	9%

*\*5 individuals were in a relationship at the time of death.*





**Figure 14: Crude rate (per 100,000) of suicide in Cumbria by marital status and audit year**  
(Source: Census 2011 and death registrations)

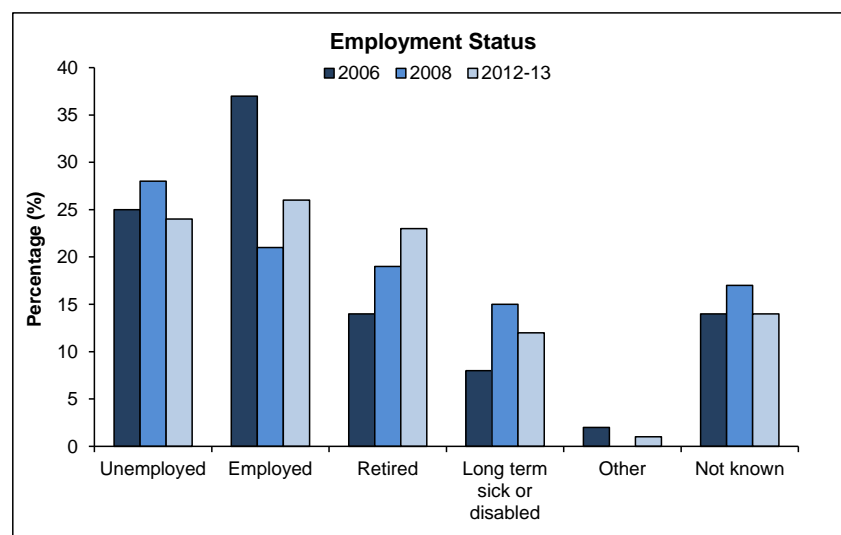
Crude rates of suicide in Cumbria according to marital status were calculated using 2011 Census data, and these are illustrated in figure 14. To enable comparison, crude rates were also calculated using the raw data from the 2006 and 2008 Cumbria suicide audits. As shown, in 2012/13 the highest rate of suicide occurred in those who were separated at the time of death with a rate of 114.2 per 100,000. The rate of separated and never married persons in Cumbria completing suicide has increased since both the 2006 and 2008 audits.

### 11.1.2 Employment Status

Research suggests that unemployment can lead to a number of negative effects on psychological well-being, such as depression, anxiety, and psychosomatic problems.<sup>33</sup> A more extreme result of unemployment is the increased risk of suicidal behaviour among the unemployed.<sup>34</sup> It is thought that unemployment may promote vulnerability for suicidal behaviour by adding to the impact of other stressful life events. Furthermore it has been argued that poor mental health precedes and predicts both unemployment and suicide, therefore leading to a spurious link between unemployment and suicide.<sup>35</sup>

An individual's last known employment status was best sought from details noted within coroner files; however for 11 cases (14%) employment status could not be determined from either the coroner, primary care, or psychiatric files. As depicted in figure 15, over a quarter (26%) of those

who died by suicide were known to be employed at the time of death. There has been an increase over the audit years of suicide among those who were retired at the time of death, in some cases this related to early retirement on the grounds of ill health but in most instances this was a reflection of age. It is important to consider our ageing population when interpreting these data and also the changes which have occurred in recent times in relation to unemployed as a result of the recent recession.



**Figure 15: Percentage (%) of suicides in Cumbria according to employment status and audit year**

### 11.1.3 Occupation

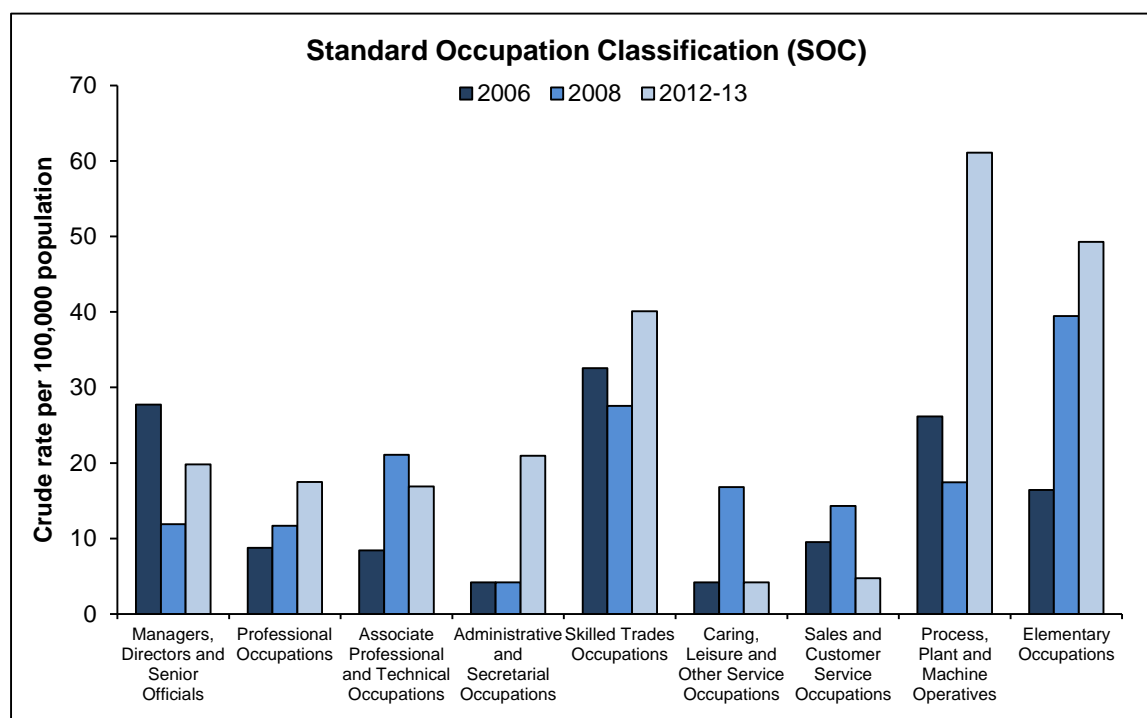
Occupation was based on the last gainful occupation of the deceased if they were unemployed or retired. In some cases occupation details were recorded on the death registration certificate and/or in the monthly PHMF. Where occupation was not included on the death registration or in the ONS PHMF, the information was obtained from either the coroner or primary care records. In total there were 11 (14%) cases whereby the last known occupation could not be obtained.

Each occupation was categorised according to the Standard Occupational Classification 2010 (SOC2010).<sup>36</sup> Population figures according to SOC2010 were then obtained from the 2011 Census to enable the calculation of a crude rate per 100,000 population (table 4). The highest rate of suicide in Cumbria was among those in 'Process, Plant and Machine Operative' occupations, including jobs such as drivers and machinists at 61.1 per 100,000. Through the case file review it emerged that 7 individuals were known to have driving jobs, which accounted for 8% of all suicides reviewed. Individuals in 'Elementary Occupations' had the second highest rate of suicide at 49.3 per 100,000 followed by those in 'Skilled Trades Occupations' at 40.1 per 100,000.

**Table 4: Crude rate (per 100,000) of suicide in Cumbria according to SOC2010 occupational group**

Major Occupation Group	Crude Rate per 100,000
Managers, Directors and Senior Officials	19.8
Professional Occupations	17.5
Associate Professional and Technical Occupations	16.9
Administrative and Secretarial Occupations	21.0
Skilled Trades Occupations	40.1
Caring, Leisure and Other Service Occupations	4.2
Sales and Customer Service Occupations	4.8
Process, Plant and Machine Operatives	61.1
Elementary Occupations	49.3

As depicted in figure 16, the rate of suicide among process, plant and machine operatives has more than doubled since 2006, and the rate among those in elementary occupations and professional occupations has also increased over each audit year.



**Figure 16: Crude rate (per 100,000) of suicide in Cumbria by SOC2010 occupational group and audit year**

#### **11.1.4 Previous Contact with the Criminal Justice System**

Both men and women, who have had previous contact with the criminal justice system (CJS), regardless of receiving a prison sentence or a guilty verdict, are known to have a significantly higher rate of suicide than the general population.<sup>37</sup> A national study found that the prevalence of psychiatric admission was high among individuals exposed to the CJS who died by suicide, especially among women. Risk of suicide was also found to be especially high among younger people with a criminal history, those who had been charged for more violent offences, and those whose contact with the CJS was recent or repeated.<sup>37</sup> Contact with the CJS was defined as an arrest, charge, and conviction or where an individual was noted to have served either a community, or prison based sentence. Results showed that nationally, more than a third of all suicides had a history of any lifetime contact with the CJS (36%), of those, just under half had contact with the CJS in the 12 months preceding death (41%).<sup>37</sup> This national study used a comprehensive methodology whereby all suicides were cross referenced with criminal records held on the police national computer. The results therefore are not directly comparable to the methods used within this case-file review which relied upon an individual's forensic history to be recorded within coroner or health care notes.

A number of the cases examined in Cumbria involved various aspects of people's lives being touched by the CJS. The results showed that 19 (24%) individuals had contact with the CJS in their lifetime, and of those 13 (68%) had contact with the CJS in the 2 months preceding death. There were 5 examples of men who had been accused or charged with a serious sexual assault, and there were also a number of instances whereby individuals with substance dependence/misuse problems were arrested for driving under the influence of alcohol. Due to the small numbers and their confidential nature, a separate and targeted report has been produced for Cumbria Constabulary which details the demographic characteristics of those who have had previous contact with the CJS and the particular scenarios surrounding their arrest and/or conviction. This is to enable Cumbria Constabulary and partner organisations such as probation offices, the Police and Crime Commissioner, law courts and prisons, the opportunity to identify any specific lessons to be learnt or recommendations in terms of suicide prevention in Cumbria.

## 11.2 Coroner Related Information

### Summary Findings: Coroner Related Information

- 34% of those who died by suicide left a suicide note, this is similar to previous years.
- 62% of all suicides in the case file review were due to hanging.
- 72% of male suicides in the case file review were due to hanging.
- 33% of female suicides in the case file review were due to self-poisoning.
- Hanging among Cumbrian males is higher compared to the UK (2012).
- Male hangings in Cumbria have increased annually since 2007.
- 27% of individuals who died by suicide were known to have consumed alcohol at the time of death.
- Males are more likely than females to have consumed alcohol prior to death.
- Alcohol consumption was most associated with hanging.
- 59% of suicides in the case-file review had a clear verdict of 'suicide'.
- Narrative verdicts accounted for 31% of suicides in the case-file review.
- The proportion of narrative verdicts delivered has increased more than two-fold since 2006, this mirrors an increase observed nationally.
- Between 01 April 2012 and 31 March 2013 there were 3 Prevention of Future Death Reports (2 under the category of 'mental health related deaths' and 1 under the category of 'railway related death').

### 11.2.1 Suicide Note

Suicide notes are important in an inquest as they can supply evidence of the deceased's intent to take his or her life and thereby help to ascertain a verdict of suicide. Suicide notes can vary greatly in their content and are the only documents in the coroner files that have been written by the hand of the deceased.

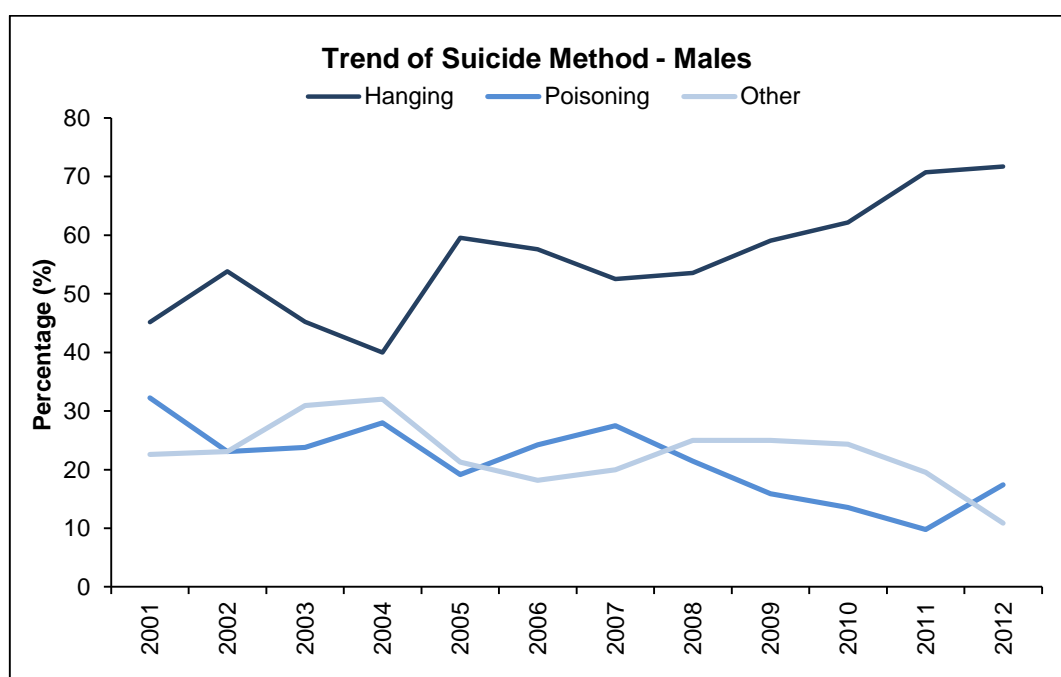
Unless the presence of a suicide note was explicitly mentioned within the coroner file it was deemed that no suicide note was left by the deceased. A total of 27 notes were left from individuals included within the case file review (two of which were in the form of a text message) which accounts for 34% of suicides reviewed. The proportion of suicides whereby a suicide note has been left by the deceased has remained similar across each audit year (33% in 2006 and 32% in 2008).

Research has suggested that those who use self-poisoning are more likely to leave a suicide note.<sup>38</sup> Information from this case file review does not support this, and reveals that of the 13 deaths by self-poisoning 4 (31%) individuals had left a suicide note. This compared to 33% of those who died by hanging, and 41% of those who died by other means.

### 11.2.2 Method of Suicide

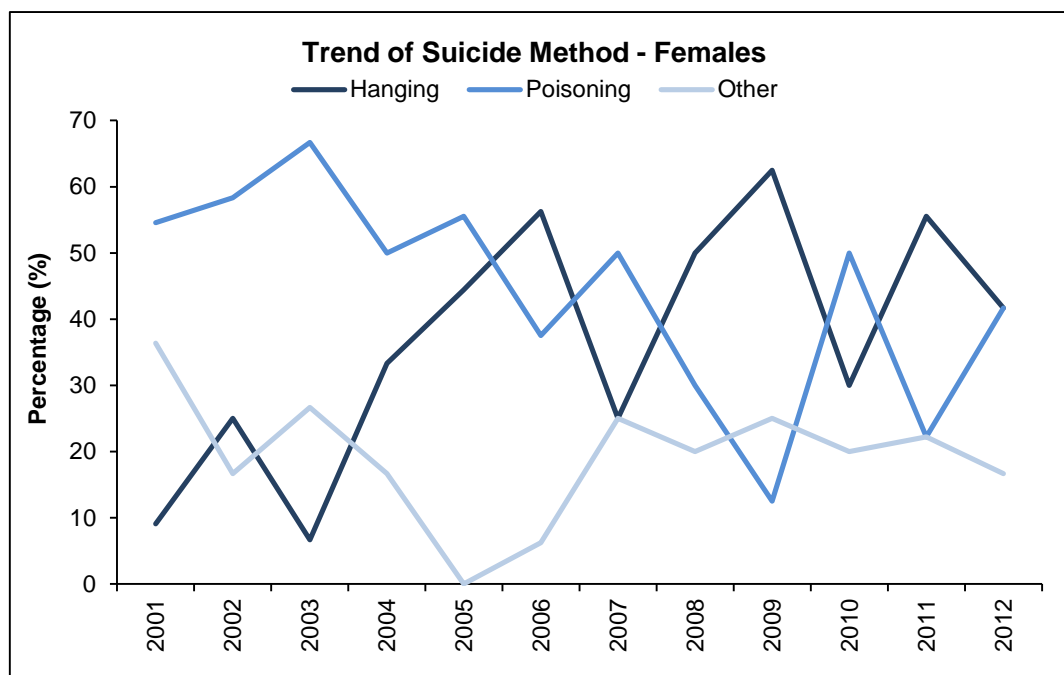
Among the general population of males in the UK, hanging is the most common suicide method and accounted for over half of male suicide deaths in the UK during 2012 (58%).<sup>39</sup> Among women, drug related poisoning is the most common method of suicide in the UK accounting for 43% of all female suicide deaths in 2012.<sup>39</sup>

Of the 78 suicides included in the in-depth review, 62% (n=48) were due to hanging. Of the 60 male suicides, 43 (72%) were due to hanging. The most common method of suicide for Cumbrian females was self-poisoning (33%, n=8), which was closely followed by hanging (28%, n=5). Figures 17 and 18 below illustrate the trend of method of suicide for males and females in Cumbria over the last eleven years (2001-2012) using data extracted from the monthly ONS PHMF. The proportion of male suicides due to hanging has increased considerably over the last 9 years, increasing from 40% in 2004 to 71.7% in 2012 (figure 17).



**Figure 17: Trend of male suicides in Cumbria by method, 2001 – 2012 (Source: PHMF)**

The trend of female suicide by method is more sporadic due to the smaller number of overall deaths. However, the proportion of female suicides that are due to hanging has generally increased over the last 11 years, whilst poisoning has generally followed a declining trend (figure 18).



**Figure 18: Trend of female suicides in Cumbria by method, 2001-2012 (Source: PHMF)**

### 11.2.3 Alcohol Consumption at the Time of Death

The UK legal alcohol limit for driving is 80 milligrams of alcohol per 100 millilitres of blood (80mg/100ml). The common symptoms of a blood alcohol concentration of 80mg/100ml are: feeling relaxed, impaired judgement, poor muscle coordination, and slower reactions.<sup>40</sup>

Toxicology reports determine the presence of alcohol and sometimes form part of the Coroner's investigations. The case file review revealed that 21 (27%) individuals had toxicology results which indicated the presence of alcohol at the time of death. This compares to 27% in the 2006 audit and 51% in the 2008 audit. Males were more likely than females to have consumed alcohol at the time of death (30% and 17% respectively). The detected blood alcohol levels ranged from 5mg/100ml to 403mg/100ml, with 17 (81%) individuals being over the alcohol limit for driving, and 7 (33%) were over two times the alcohol limit for driving. It should be noted that under some circumstances a low blood alcohol concentration such as 5mg may be the of result microbial activity after death.

### 11.2.4 Alcohol Use and Method of Suicide

Of the 21 cases whereby alcohol was known to have been consumed at the time of death, 13 (62%) of deaths were due to hanging, this accounted for 27% of all hangings included in the case file review.

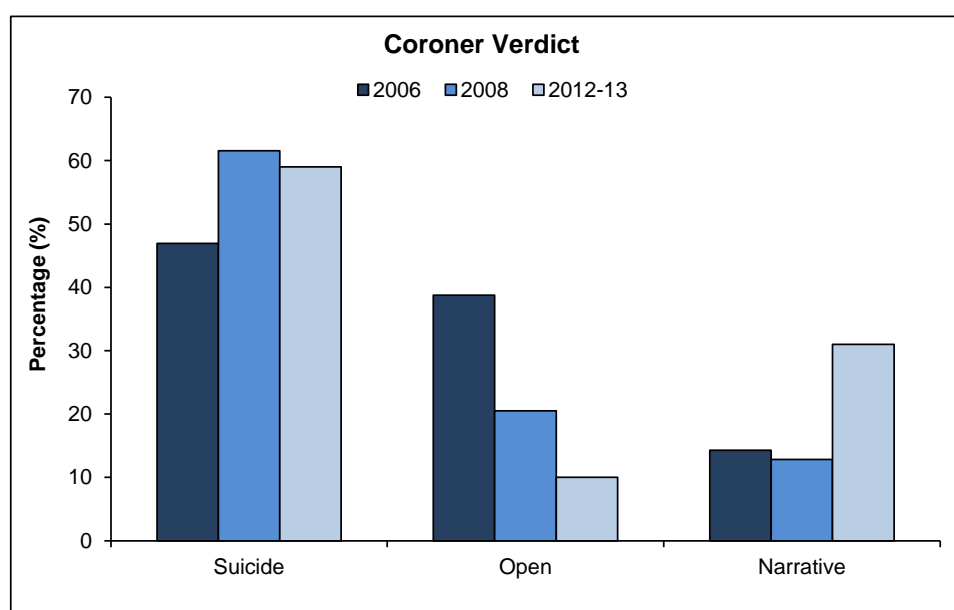
### 11.2.5 Coroner Verdicts

Of the 78 suicides in this case file review (see page 12 for inclusion criteria), a total of 46 (59%) had a verdict which related to suicide such as ‘took his or her own life’ or ‘killed him or herself’. There were 8 open verdicts, accounting for 10% of the case files reviewed, while 24 (31%) were narrative verdicts. The most common narrative verdicts included a reference to mental health problems and mental illness, followed by reference to an individual’s balance of mind being disturbed (table 5).

**Table 5: Number and percentage (%) of suicide, open and narrative verdicts**

Verdict	Number	%
Took his or her own life	26	33%
Killed him or herself	18	23%
Suicide	2	3%
<b>Total Suicide Verdicts</b>	<b>46</b>	<b>59%</b>
<b>Open Verdicts</b>	<b>8</b>	<b>10%</b>
Balance of his or her mind was disturbed	6	8%
Suffering from mental health problems/mental illness	12	15%
Consequence of own actions after taking alcohol and/or drugs	3	4%
Suffering from mental health problems/mental illness and consuming alcohol and/or drugs	3	4%
<b>Total Narrative Verdicts</b>	<b>24</b>	<b>31%</b>
<b>Total</b>	<b>78</b>	<b>100%</b>

The proportion of narrative verdicts delivered has increased more than two-fold since 2006, as shown in figure 19, whilst the number of open verdicts has decreased considerably. This finding also mirrors the increase of narrative verdicts at a national level.<sup>41</sup>



**Figure 19: Percentage (%) of suicide, open and narrative verdicts in Cumbria by audit year**



### **11.2.6 Prevention of Future Death Reports**

Coroners have the legal power and duty to write a report following an inquest if it appears there is a risk of other deaths occurring in similar circumstances. This is known as a 'prevention of future death report' (previously known as a rule 43 report) which is then sent to organisations who are in a position to take action to reduce risk. The organisations must reply within 56 days to say what action they plan to take.

Official bulletins published by the Ministry of Justice, indicate that between 01 April 2012 and 31 March 2013 there were 2 reports issued by Cumbria coroners under the category of 'mental health related deaths' and 1 report issued under the category of 'railway related death'.<sup>42</sup> It was however not possible to determine if these deaths were related to suicide cases within this case file review. Details of the 3 reports are summarised below.

- To consider reviewing the actions to be taken when a mental health patient is not contactable on planned or expected home visits.
- To consider training staff in the importance of engaging patients, even if they are reluctant to do so, when carrying out assessments under the Mental Health Act 1983.
- To consider improving track access, data capture and training on the West Coast Main Line.

### 11.3 Primary Care History

Examining primary care information is important because in some suicide cases the GP or another primary care worker may be the only health care practitioner who has had contact with an individual who may be suicidal and therefore have an important role in the detection of risk factors and appropriate management. Furthermore, primary care records can provide rich information on an individual's life history and can aid in the collation of risk factors and demographic information that can essentially help to inform Cumbria's suicide prevention strategy.

#### Summary Findings: Primary Care Characteristics

- 81% had contact with their GP in the year prior to suicide.
- 22% had contact with their GP in the week prior to suicide.
- Females were more likely than males to consult with their GP in the week and year prior to suicide.
- All patients who did not consult with their GP in the year prior to suicide were male and more often aged <44.
- Of those who had contact with their GP in the year prior to suicide, 46% of consultations were due to mental health reasons.
- At the last contact with GP in the year prior to suicide, females were more likely than males to be seen for mental health reasons.
- Females on average have more consultations with the GP for mental health reasons compared to males in the year prior to death.
- 63% of individuals had a current/on-going mental health diagnosis.
- Those aged 45-64 were most likely to have a current/on-going mental health diagnosis.
- 42% of individuals had a diagnosis of depression.
- A diagnosis of depression was most common for those aged 45+.
- 17% of individuals had a diagnosis of alcohol and/or drug misuse, over half of whom had a dual diagnosis (depression).
- 15% of individuals had been given a mental health diagnosis in the 12 months prior to suicide, lower than the UK proportion of 26%.
- 60% of individuals had been prescribed a psychotropic drug in the 12 months prior to suicide, higher than the UK proportion of 48%.
- 35% of individuals had been prescribed an SSRI antidepressant in the 12 months prior to suicide, higher than the UK proportion of 25%. Citalopram being the most common SSRI prescription.
- 32% of individuals had been prescribed drugs from two or more psychotropic drug groups in the previous 12 months, similar to the UK proportion of 31%.
- 42% of individuals had a history of self-harm.
- 58% had at least one diagnosis of a physical health condition, the most common were: pain related conditions, diseases of the digestive system and diabetes.

### 11.3.1 Consultations with the GP

Nationally, between Jul – Sep 2013 and Jan – Mar 2014, 86% of people had seen or spoken to a GP in the last 12 months, and in Cumbria this proportion was 84%.<sup>43</sup>

A recent research case-control study that published by the National Confidential Inquiry into Suicide and Homicide (NCISH) found that 63% of patients who died by suicide in England between 2002 and 2011 had a face-to-face consultation with their GP in the previous 12 months.<sup>44</sup>

In Cumbria, 63 (81%) of those who died by suicide were known to have had contact with their GP in the previous 12 months. The average number of days between an individual's last contact with their GP and the date of death was 136 days; the median number of days was 30.5 days, ranging from 1 day to 1,868 days.

The proportion of individuals having contact with their GP in the previous 12 months was lower compared to in 2006 where 91% were known to have had contact during the previous year, but higher compared in to 2008 where 73% were known to have had contact during the previous year. The proportion of males having contact with their GP in the year prior to death in Cumbria has consistently been lower compared to females throughout each audit year (table 6).

**Table 6: Percentage (%) of suicides according to last known contact with GP prior to death, by gender and audit year**

Last contact with GP	Percentage (%)		
	2006	2008	2012-13
<b>Contact &lt;1 week prior</b>			
Males	21	5	20
Females	31	19	28
Persons	25	9	22
<b>Contact &lt;30 days prior</b>			
Males	24	30	40
Females	25	56	61
Persons	25	38	45
<b>Contact &lt;1 year prior</b>			
Males	88	68	77
Females	94	88	94
Persons	91	73	81
<b>Contact &gt;1 year prior</b>			
Males	9	14	12
Females	6	13	0
Persons	8	13	9

Of the 78 suicides reviewed, 17 (22%) of individuals had contact with their GP in the week prior to their death; this was considerably higher compared to the 9% in 2008, but similar to in 2006 where 25% had contact with their GP within a week before completing suicide. Females were more likely than males to have had contact with their GP in the week prior to completing suicide. In 7 (9%) suicides, there were no consultations in the year before death (table 6), this was considerably lower compared to in England where 37% had no contact in the year before death.<sup>44</sup>

Analyses by age-band show that all individuals who were aged 65+ had contact with their GP in the year prior to death, and individuals of this age were also more likely to have contact within 1 week prior to suicide compared to other age groups (table 7). Further analysis revealed that the reason for last contact with the GP of those aged 65+ were commonly due to physical health reasons (43%) whilst 36% were mental health related.

**Table 7: Percentage (%) of suicides according to last known contact with GP prior to death, by age-band<sup>‡</sup>**

Age Band	Percentage (%)			
	<1 week	<30 days	<1 year	>1 year
Under 25	0	25	75	25
25 - 44	21	42	71	13
45-64	19	41	81	6
65+	43	71	100	0

### 11.3.2 Reason for last contact with GP (<1 year prior to death)<sup>§</sup>

Of those who had contact with their GP in the year prior to suicide, 46% of the last consultations were due to mental health reasons, 40% were due to physical reasons, and 13% were due to both mental and physical reasons. Figure 20 shows the reason for last contact with GP in the year prior to suicide according to gender. As illustrated, females were more likely than males to be seen for mental health reasons at their last contact, whilst males were equally seen for mental and physical reasons.

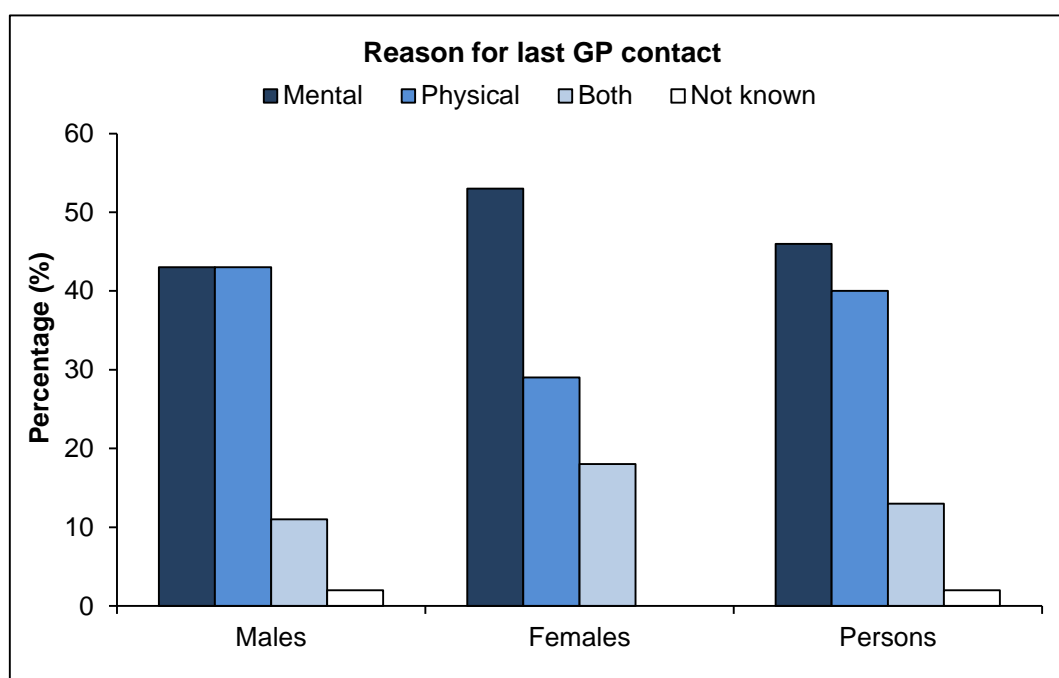
Analyses by age band reveals that at the last GP consultation within a year prior to death, those aged between 25 and 64 were more likely to be seen for mental health reasons, whilst those aged <25 and >65 were more likely to be seen for physical health reasons (table 8).

<sup>‡</sup> There were 8 cases in which the date of last contact with GP could not be obtained due to the absence of consultation information within the primary care file.

<sup>§</sup> Not comparable to the 2006 and 2008 audit, as this data includes only those individuals in contact with their GP in the year prior to death.

**Table 8: Percentage (%) of suicides according to reason for last contact with GP within a year prior to death, by age band**

Reason for last contact	Age band, percentage (%)			
	<25	25 - 44	45-64	>65
Mental health	33	47	54	36
Physical health	67	41	31	43
Both	0	12	15	14
Not known	0	0	0	7



**Figure 20: Percentage (%) of suicides according to reason for last contact with GP within a year prior to death, by gender**

### 11.3.3 Number of GP consultations in the previous year for mental health reasons

Suicide risk is recognised to be associated with frequent and increasing GP consultations, and can be a marker of suicide risk in primary care.<sup>44</sup>

This case-file review revealed that the number of individual GP consultations that were related to mental health reasons within a year prior to death ranged from 1 to 19. The mean number of mental health consultations was 4, and the median was 2.5 consultations. The average number of mental health consultations in the year prior to death for females was 7, whilst for males the average was 2.

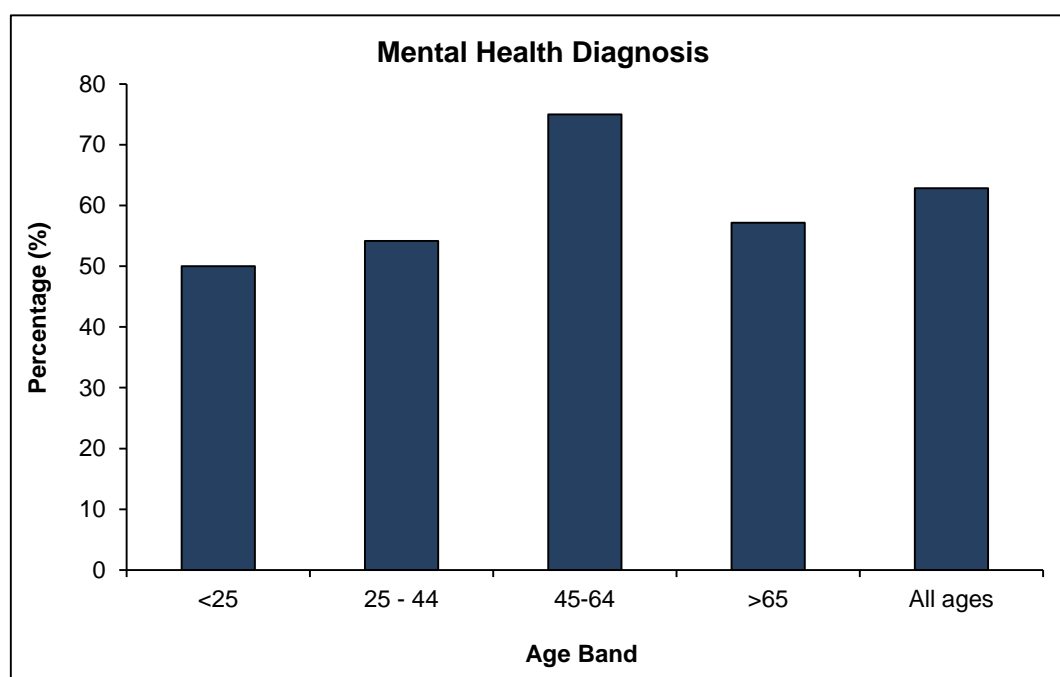
### 11.3.4 Mental Health Diagnosis

Having a mental illness is one of the widely known risk factors for suicide and suicidal behaviour.<sup>45</sup>

There were 49 (63%) individuals who died by suicide that had a current/ongoing mental health diagnosis recorded in their primary care file at the time of death (figure 21), and this proportion is equal to that recorded in the UK.<sup>44</sup> The proportion of individuals with a current/ongoing mental health diagnosis at the time of death within this case file review was lower compared to in both 2006 and 2008 (71% and 70% respectively).

Analysis by age band revealed those aged 45-64 had the highest prevalence (75%) of a current/ongoing mental health diagnosis at the time of death (figure 21).

There were 23 individuals (or 29%) with no mental health diagnosis at the time of death recorded in their primary care notes, and a further 6 (or 8%) whereby this information was unknown.



**Figure 21: Percentage (%) of individuals who died by suicide with a mental health diagnosis recorded at the time of death, by age band**

### 11.3.5 Type of Mental Health Diagnosis

#### Depression

In 33 cases (or 67% of individuals with a current/ongoing mental health diagnosis, and 42% of all suicides) there was a diagnosis of depression or 'low mood'. There were 15 individuals who also had

a diagnosis of at least one other mental illness which was most commonly alcohol dependence/misuse (n=6), followed by anxiety (n=5).

Further analysis revealed that a diagnosis of depression increased with age:

- 25% of those aged <25
- 62% of those aged 25-44
- 75% of those aged 45-64
- 75% of those aged >65

### **Alcohol and drug dependence/misuse**

Alcohol and drug dependence/misuse is also recognised to be strongly associated with suicide and suicide attempts. Alcohol abuse may lead to suicidality through disinhibition, impulsiveness and impaired judgment, but it may also be used as a means to ease the distress associated with taking an act of suicide.<sup>46</sup>

There were 13 individuals who had a diagnosis of either alcohol or drug dependence/misuse at the time of death in their primary care notes (27% of individuals with a current/ongoing mental health diagnosis at the time of death, and 17% of all suicides). Of the 13 observed diagnoses of alcohol and/or drug misuse, 6 individuals also had a dual-diagnosis of depression.

### **Other Mental Health Diagnosis**

There was a small number individuals with a diagnosis of other mental health conditions such as schizophrenia and other delusional disorders, bipolar, and autism; however the numbers are too small to report.

#### **11.3.6 Diagnosis in last 12 months**

A total of 12 individuals (or 15% of all suicides) were given a diagnosis of a mental illness in the 12 months prior to suicide, this compared to 26% in the UK.<sup>44</sup>

Of the 12 individuals in Cumbria with a mental health diagnosis that was made in the 12 months before suicide, 58% were given a diagnosis of depression.

#### **11.3.7 Prescribed Drugs in the last 12 months**

A total of 47 individuals (60%) had been prescribed a psychotropic drug in the 12 months before suicide, this compared to 48% in the UK.<sup>44</sup> A total of 25 individuals (32%) had no psychotropic drug treatment, and in a further 6 cases (8%) information on prescriptions could not be obtained.

Females were more likely to have been prescribed antipsychotic drugs in the previous 12 months compared to males (89% and 62% respectively).

As illustrated in table 9, prescriptions for selective serotonin reuptake inhibitors (SSRI) antidepressants were most common with 35% of individuals having been prescribed an SSRI in the previous 12 months. Citalopram was the most prescribed SSRI (n=12), followed by Fluoxetine (n=8), and then Sertraline (n=6). The proportion of SSRI prescriptions in the last 12 months in Cumbria is higher compared to the UK proportion of 25%.<sup>44</sup>

**Table 9: Percentage (%) of psychotropic drug prescriptions in the last 12 months, compared to the UK**

Psychotropic drug group	Cumbria %	UK % <sup>44</sup>
Typical antipsychotics	0	6
Atypical antipsychotics	8	9
Depot antipsychotics	1	0.5
Lithium and other mood stabilisers	3	4
SSRI antidepressants	35	25
Tricyclic antidepressants	10	12
Other anti-depressants	15	12
Benzodiazepines	5	19
Other anxiolytics and hypnotics	22	14
Opioid analgesics	6	11

### 11.3.8 Multiple Drug Prescriptions

A total of 25 people (or 32%) had been prescribed drugs from two or more psychotropic drug groups in the previous 12 months, this was similar to the UK proportion of 31%.<sup>44</sup> The proportion of individuals that were prescribed drugs from 3 or 4 psychotropic drug groups was 12%.

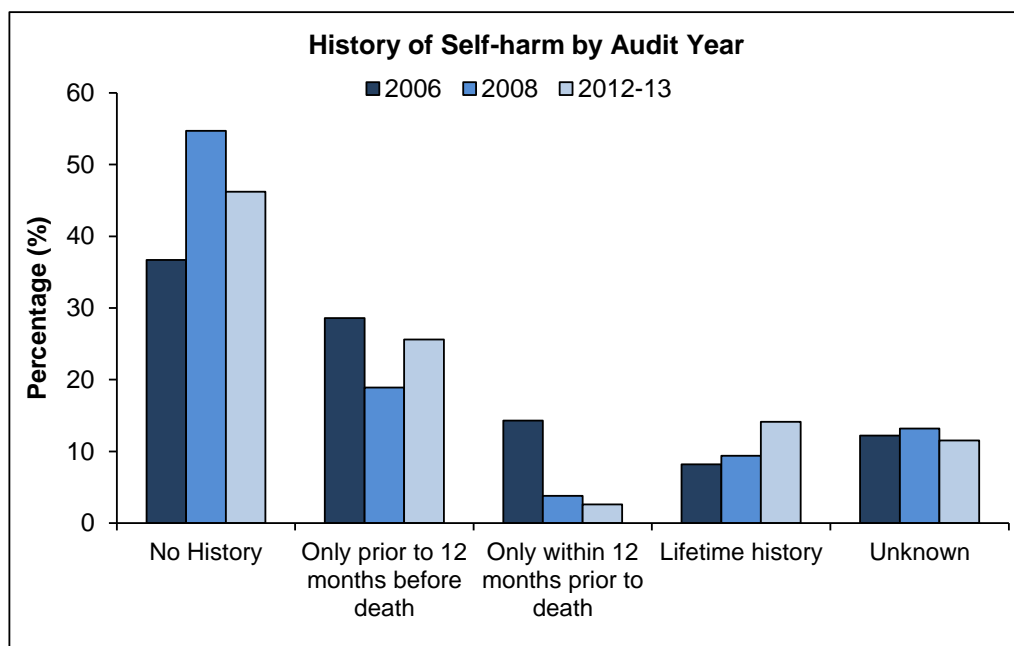
### 11.3.9 History of self-harm

A non-fatal suicide attempt is the strongest known clinical predictor of eventual suicide.<sup>47</sup> The case-file review found that 33 (42%) individuals were known to have a history of self-harm, most commonly prior to 12 months before death. Previously, in 2006 51% of those in Cumbria who died by suicide had a history of self-harm and in 2008 the proportion was 32%.

The proportion of individuals known to have a lifetime history of self-harm has increased through the audit years, in 2012-13 this was 14% (lifetime history refers to self-harm attempts both within the 12 months prior to death and occurring prior to the 12 months before death). Individuals completing suicide were more likely to have a history of self-harm prior to 12 months before death

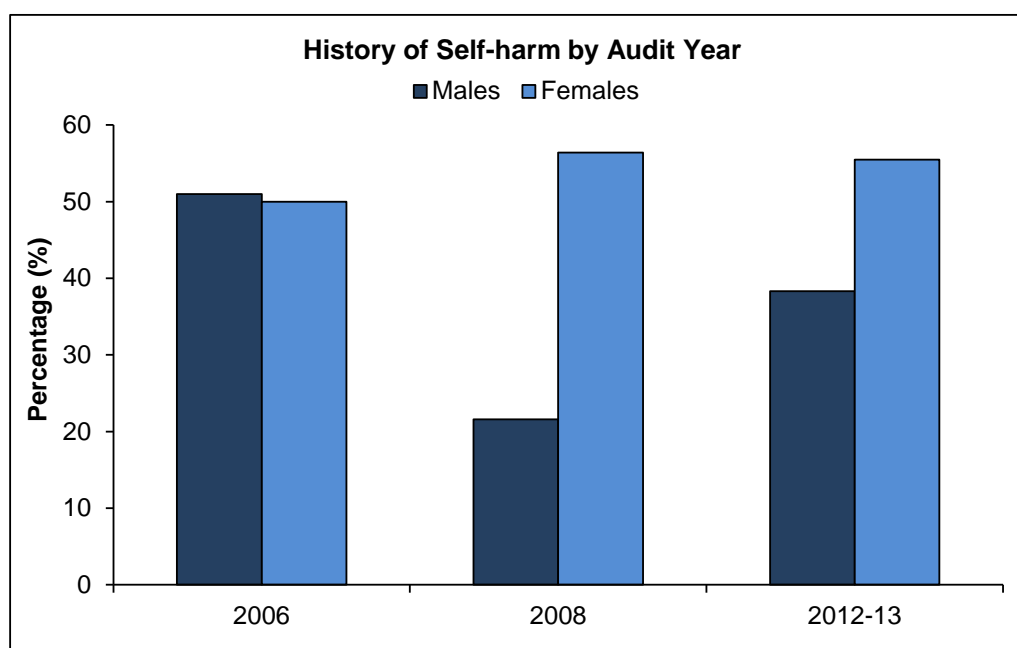


compared to within the 12 months prior to death (26% and 3% respectively) and this is also reflected in previous audit years (figure 22).



**Figure 22: Percentage (%) of individuals who died by suicide according to self-harm history and audit year**

Females in Cumbria who died by suicide in 2012-13 were more likely than males to have a history of self-harm (56% and 38% respectively), this was also the case in 2008 whereas in 2006 the proportion of males and females with a history of self-harm was similar (figure 23).



**Figure 23: Percentage (%) of males and females who died by suicide with a history of self-harm, by audit year**

### **11.3.10 Physical condition at the time of death**

A total of 45 individuals (or 58%) had at least one diagnosis of a physical health condition at the time of death, the most common of which are outlined below.

#### **Pain Conditions**

There were 18 individuals (or 23%) who had a diagnosis relating to pain conditions, including back pain (5 cases), arthritis, neurologic pain, sciatica, gout and fibromyalgia.

#### **Digestive System Diseases**

There were 8 individuals (or 10%) who had a disease of the digestive system at the time of death (such as crohns disease, coeliac disease, and benign polyps).

#### **Diabetes**

This case-file review found that there were 5 individuals (or 6%) who had a diagnosis of diabetes, most commonly type II diabetes; this was also identified as a risk factor in the 2008 audit.<sup>7</sup> Research suggests that diabetes can have a profound effect on a person's quality of life and on the physical and emotional health of the person diagnosed with it.<sup>48</sup>

## 11.4 Psychiatric History

Many people who die by suicide suffer from mental health disorders.<sup>44</sup> Examining specialist mental health care records can enable the identification of specific risk factors in relation to those in contact with services, provide insight into potential lessons to be learnt, and help to inform Cumbria's suicide prevention work.

Mental health services are provided by Cumbria Partnership NHS Foundation Trust. Drug and alcohol services was the remit of Cumbria Partnership NHS Foundation Trust up to July 2013, and since then Greater Manchester West (Unity) has been the provider for drug and alcohol services in Cumbria.

### Summary Findings: Psychiatric Characteristics

- 49 individuals (63%) who died by suicide had some previous contact with specialist mental health services (83% of females and 57% of males).
- 35% of the 49 who had some previous contact had been admitted to a psychiatric in-patient ward in their lifetime.
- 28 individuals (or 36%) had contact in the 12 months prior to death (patient suicide), slightly higher than 33% in the UK.
- 56% of female suicides were patient suicides compared to 45% in the UK.
- 30% of male suicides were patient suicides, similar to 29% in the UK.
- Patient suicides were highest among those aged 45-64.
- 10 patient suicides (or 36%) were in contact with specialist mental health services in the week prior to death.
- 18 patient suicides (or 64%) were in contact with specialist mental health services in the three months prior to death.
- 9 patient suicides (or 32%) were admitted to a psychiatric in-patient ward in the 12 months prior to death: 3 died within 10 days following discharge and 2 died whilst on weekend release.

### 11.4.1 Contact with Specialist Mental Health Services

Of the 78 suicides in Cumbria identified within this case-file review, 49 individuals had had some previous contact with specialist mental health services. This equated to almost two thirds (63%) of all suicides in Cumbria, and accounted for 15 of the 18 female suicides (83%) and 34 of the 60 males (57%).

Compared to previous suicide audits in Cumbria, the proportion of individuals having some previous contact with specialist mental health services has increased (table 10). It is possible that the

increase may reflect a rising number of people in the general population that are under mental health care and the availability of services.

**Table 10: Percentage (%) of suicides whereby the individual had some previous contact with specialist mental health service, by audit year and gender**

Audit Year	Males	Females	Persons
2006	42	69	51
2008	27	50	34
2012/13	57	83	63

#### 11.4.2 Psychiatric Status

As outlined in table 11, of the 49 individuals who had had contact with specialist mental health services, 22 individuals (or 45%) had one or more previous contacts but were not subject to a care programme approach (CPA), this was a higher proportion compared to in 2008 where 39% had contact but were not on CPA.\*\*

There were 18 individuals (or 37%) who had had one or more previous contacts with specialist mental health services that involved an admission to an in-patient ward. Whilst there were 6 who had one or more contacts and who were subject to CPA (12%).

**Table 11: Number and percentage (%) of patient suicides whereby the individual had contact with specialist mental health services, by psychiatric status**

Psychiatric Status	No.	%
One or more previous contact but not subject to CPA	22	45
One or more previous contact and subject to CPA	6	12
One or more previous contacts involving in-patient service	18	37
Evidence of contact but status unknown	3	6
Total	49	100

#### 11.4.3 Patient Suicides

The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (NCISH) collects detailed clinical information from secondary mental health services on a national sample of suicides by people in current, or recent (within the previous 12 months), contact with such services. The National Confidential Inquiry defines suicides by people in current or recent contact with secondary mental health services as patient suicides.<sup>49</sup>

---

\*\* Comparison was not available for 2006.

The audit revealed that there were 28 patient suicides, equating to 36% of all suicides in Cumbria over the audit period. This was slightly higher compared to the national percentage of 33% in 2011.

A more detailed report is being produced on patient suicides for submission to the Cumbria Partnership Journal of Research, Practice and Learning. This will focus on risk and escalating factors and lessons to be learnt and will also be shared with Cumbria's drug and alcohol service provider, Greater Manchester West (Unity).

#### **11.4.4 Patient Suicides by Gender**

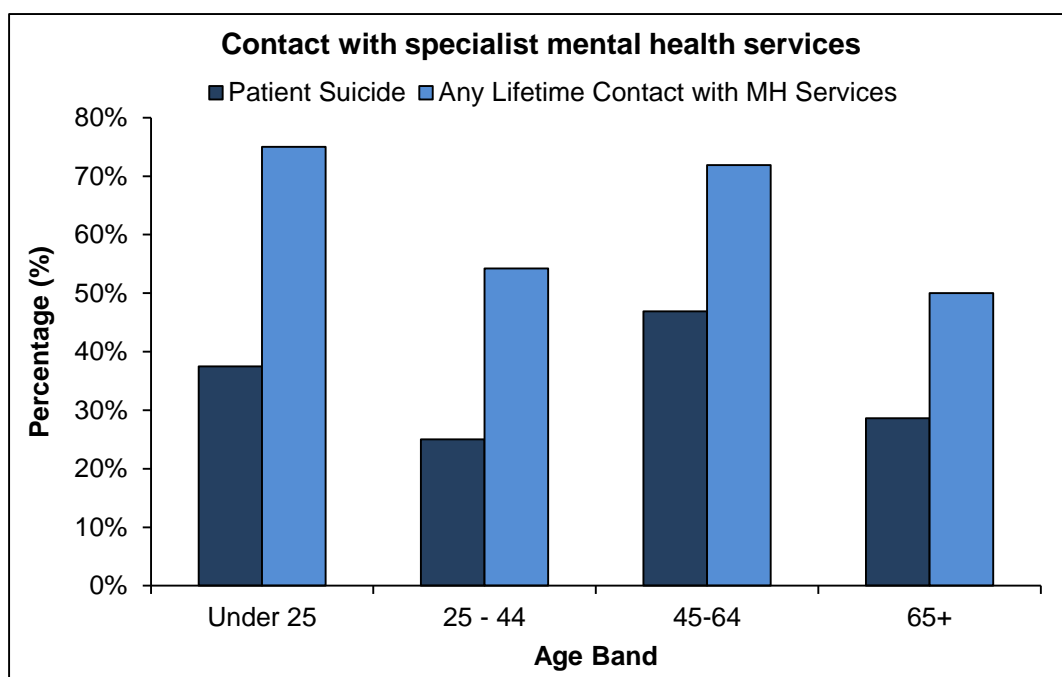
Analysis by gender found that 56% of female suicides in Cumbria were patient suicides, this is compared to 45% nationally in 2011.<sup>49</sup> The proportion of male patient suicides was lower than females in Cumbria at 30%, this was a similar proportion to nationally where 29% of male suicides were patient suicides in 2011.<sup>49</sup>

#### **11.4.5 Patient Suicides by Age-Band**

Figure 24 illustrates the proportion of patient suicides and suicides where the individual had any contact with mental health services in their lifetime according to age-band. As shown, 75% of those completing suicide aged under 25 had some contact with mental health services in their lifetime, this was the highest compared to all age bands, closely followed by 72% of 45-64 year olds. Patient suicides among those aged 45-64 were highest at 47%, followed by under 25's at 38%. The lowest proportion of patient suicides were among those aged 25-44, and the lowest proportion of contact with mental health services in a lifetime were among those aged 65+.

#### **11.4.6 Patient Suicides and Last Contact with Services**

Of the 28 patient suicides, documentation revealed that 18 individuals (or 64%) had been in contact with mental health services in the three months before death. Ten individuals had last seen a member of the specialist mental health team within 7 days prior to death, this equates to 36% of all patient suicides.



**Figure 24: Percentage (%) of patient suicides and suicides by individuals with any contact with specialist mental health services, by age-band**

#### 11.4.7 Patient Suicides and Nature of Last Contact

Over half of individuals (56%) who had been in contact with mental health services in the 12 months prior to death were on caseload at their last contact. There were 5 individuals who were assessed but not taken on caseload, and a further 5 who were discharged from caseload at their last contact with mental health services (table 12).

**Table 12: Number and percentage (%) of patient suicides according to nature of last contact with mental health services**

Nature of Last Contact	Number	%
Assessment but not taken on caseload	5	18
Discharge from inpatient care	1	4
Discharge from caseload	5	18
Contact while on caseload	15	54
Unknown	2	7
Total	28	100

#### **11.4.8 Psychiatric Inpatient Care**

Suicide risk after discharge from psychiatric inpatient care is high, particularly in the first few weeks.<sup>50</sup> This case-file review identified that of the 49 individuals who had some contact with specialist mental health services in their lifetime, 17 (35%) had been admitted into a psychiatric in-patient ward. The time that was spent on an in-patient ward ranged from between 1 to 8 months.

Of the 28 patient suicides, 9 individuals (32%) had been admitted into a psychiatric in-patient ward in the 12 months prior to death. There were 3 individuals who died within 10 days from the date of discharge from in-patient psychiatric care. And there were 2 occasions where the individual's death occurred whilst on weekend leave from in-patient care.

Of the 7 individuals who had been admitted into a psychiatric in-patient ward in the 12 months prior to death (excluding the 2 who died on weekend leave) follow-up within 48 hours was carried out on three occasions, and one patient was followed up 9 days after discharge. On two other occasions, a 48 hour follow up appointment was arranged however this contact was not documented within the notes. Finally, for one patient a 48 hour follow up appointment was arranged however the patient died the day following discharge from in-patient care.

## 12. Discussion and Recommendations

### 12.1 Emerging Risk Factors

There are many known risk factors for suicide documented within suicide literature, many of which have been covered within this report such as relationship and employment status, mental illness, and history of self-harm. However, alongside these well known risk factors, there were three other noteworthy risk factors which appear to be emerging in Cumbria, the first of which relates to the welfare reform, the second relates to chronic pain and long term conditions, and the third relates to individuals in contact with the criminal justice system. These are discussed in more detail below.

#### Welfare Reform

In 2008, the UK Government announced a significant reform of the welfare system. Under this reform, individuals receiving Incapacity Benefit, Severe Disablement Allowance, and Income Support paid on the grounds of illness or disability were informed that between 2011 and 2014 they would be assessed for entitlement of Employment and Support Allowance (ESA) under the Work Capability Assessment. Following the assessment individuals are either found to be eligible for ESA (under either the Work Related Activity Group or Support Group) or they are found not to be eligible for ESA and the claimant may then be eligible for Job Seekers Allowance.<sup>51</sup>

Further to the changes outlined above, since April 2013 there have been new rules in Housing Benefit for working-age people living in social housing, referred to as the removal of the spare room subsidy. This means those tenants whose accommodation is larger than they need may lose part of their Housing Benefit.<sup>52</sup>

Little information is currently available at a national level on the impact of the welfare reform in relation to suicide and suicidal ideation. However, research does suggest that low expectation of future income and welfare can increase an individual's risk of suicide.<sup>53</sup>

This review found five cases whereby there was evidence that changes to individual's benefits as a result of the welfare reform were being either considered or were going to be implemented. In all cases, this was described within the available documentation to have caused worry, distress, or anxiety.

*A 49 year old male with depression and alcohol dependence had his incapacity benefit stopped for three months following a medical assessment. A family member stated that this had a detrimental effect on his well-being and security in that it brought uncertainty*



*to his life. Following this he began drinking heavily and began to remember traumatic events from the past.*

As highlighted in the above example, it is important to note that these cases must also be considered in the context of the myriad of risk factors that are often also present in the individual's life.

Cumbria's current suicide prevention training provider (Carlisle Eden MIND) has specified, since October 2013, that training should focus on agencies and front-line workers working with people at high risk of suicide, including advice and support agencies working with the unemployed and/or offering welfare benefits advice.

**Recommendation:** To ensure that staff of Citizens Advice Bureau, Housing Associations, Job Centres, and GPs that come into contact with individuals in distress as a result of benefit changes and other types of economic loss, know where to signpost individuals to appropriate support services.

#### Chronic Pain and Long Term Conditions

There is a growing body of literature on the association between pain and suicide. One study in particular has found that veterans with severe pain are more likely to die by suicide than patients experiencing none, mild, or moderate pain, and the study recommends that pain evaluations should be included in comprehensive suicide assessments and suicide prevention efforts.<sup>54</sup>

The issue of chronic pain as a risk factor for suicide in Cumbria first came to light through findings from the 2008 audit,<sup>7</sup> and it has once again transpired as a key risk factor of those who die by suicide with 18 (23%) individuals having a pain condition at the time of death. The most common chronic pain related health condition was back pain; however there were also cases of neurologic pain, sciatica, fibromyalgia and gout. The presence of more than one type of pain condition was also found for a number of individuals. As with the example regarding the welfare reform noted above, it was clear that the presence of a chronic pain or long term condition was often in existence with a number of other suicide risk factors.

*A 42 year old male who had a long standing history of chronic back pain, a diagnosis of psychotic depression, a history of self-harm and previous contact with the CJS, he was dependent on pain relief and used alcohol and cannabis as a means to numb his pain. Following a recent relationship breakdown he was then found dead.*

Diseases of the digestive system and diabetes were also revealed as conditions that were among the top three prevalent types of conditions at the time of death (10% and 6% respectively). A Swedish

study has found that there is a moderately increased risk of suicide amongst patients with coeliac disease,<sup>55</sup> and a study carried out in Italy found that patients with diabetes showed greater hopelessness and suicidal ideation than a group of internal-medicine outpatients.<sup>56</sup>

The following recommendation also mirrors a recommendation that was made in 2008.<sup>7</sup>

**Recommendation:** Health care professionals to consider the impact of chronic pain and other long term conditions in connection with other known risk factors and escalators when carrying out individual suicide risk assessments.

### Contact with the Criminal Justice System

In line with National reports, this case file review has confirmed that individuals in Cumbria who have recent contact with the CJS, in particular in the early stages of the CJS process are at an increased risk of suicide. Again, the complexity of these particular cases was evident, whereby they should be considered in the context of the myriad of risk factors that are often also present in the individual's life. As noted, a separate agency specific supplementary report has been produced for Cumbria Constabulary; this document will include more detail and specific recommendations.

**Recommendation:** To disseminate the findings of this report to the mental health and criminal justice steering group in Cumbria for further investigation and action in relation to individuals in recent contact with the criminal justice system.

## **12.2 The Suicide Audit Process**

The systematic process of collecting local data on suicides, as demonstrated above, enables the identification of high-risk groups which in turn has the ability to inform the development and implementation of local suicide prevention strategies. A research report recently published in the British Medical Journal (BMJ) recognised that process on collecting local data on suicides is time and labour intensive, and that the value such audits has recently been questioned.<sup>57</sup> In Cumbria, it is recognised that whilst conducting a suicide audit is a highly resource intensive process, the results that are produced are effective in informing the local suicide prevention strategies.

Like many other areas in England, both the previous suicide audits in Cumbria (2006 and 2008) and this most recent audit has utilised a modified version of the NIMHE tool,<sup>19</sup> whereby the original has been extended. It has become clear from using this tool on three occasions, most recently with input from primary care and psychiatric professionals, that the tool could be adapted into a more condensed, practical, and time efficient version. Firstly, there are a number of fields in the NIMHE tool which we have consistently been unable to complete from data sources. Secondly, it was

identified by the research team that for some fields more clarity was required, for example on risk identification and documentation. And thirdly, it is felt that the way in which risk and escalating factors are documented for analytical purposes could be improved.

**Recommendation:** To produce a data collection pro-forma for future suicide audits in Cumbria that allows data to be collected in a more time-efficient manner, but that also does not compromise on the quality of information being produced.

The BMJ research also revealed that one of the concerns around the suicide audit process was around how findings are to be put to use locally.<sup>57</sup> After liaison with members of the Cumbria SPLG, it was suggested that the production of a series of specific summary reports for relevant agencies would be helpful. In consideration to this suggestion, three separate reports were put together for primary care, police and specialist mental health professionals. These reports are complimentary to the full results outlined in this report, and this is reinforced in each agency specific summary report.

A number of requests have also been put forward for a series of local authority specific reports. These would need to be interpreted cautiously due to the smaller number of suicides at this geographical level.

**Recommendation:** The production of agency specific reports in a format which can easily be updated following any successive suicide audits. Recommended agency specific reports include firstly the police (due to those in contact with the CJS identified locally and nationally as a risk group); secondly for specialist mental health services (on patient suicide) and thirdly a report for primary care professionals.

**Recommendation:** The production of local authority specific summary reports, following interest from councillors in Cumbria.

### 12.3 Documentation

Determining the local picture on deaths by suicide, including the identification of high risk groups and recognising lessons to be learnt relies on accurate and up to date documentation within the patient files. This audit, and along with the two previous Cumbria suicide audits, identified that there are instances whereby certain information on demographic or individual risk factors cannot be ascertained due to the absence of complete documentation. For example, with regards to primary care information, there were 9 cases (12%) in which the patients full electronic GP consultation print out was not included within the files themselves.

**Recommendation:** In order to make the suicide review process as complete as possible in the future, it is recommended that the primary care file of a deceased patient includes the full electronic GP summary print out.

Separate recommendations have been made in relation to specialist mental health care and drug and alcohol services in relation to case file documentation within their agency specific summary report.

### 13. References

1. Department of Health (DOH). *Living Well for Longer: a Call to Action to Reduce Avoidable Premature Mortality*. DOH 2013 (<https://www.gov.uk/government/publications/living-well-for-longer-a-call-to-action-to-reduce-avoidable-premature-mortality>)
2. Brown R, Beynon C. *Avoidable Mortality in Cumbria: An Overview*. Centre for Public Health, ([http://www.cph.org.uk/wp-content/uploads/2013/08/Avoidable-Mortality-in-Cumbria-R-Brown\\_and\\_C-Beynon-Aug2013.pdf](http://www.cph.org.uk/wp-content/uploads/2013/08/Avoidable-Mortality-in-Cumbria-R-Brown_and_C-Beynon-Aug2013.pdf))
3. HM Government. *No health without mental health: a cross government mental health outcomes strategy for people of all ages*. HM Government 2011. (<https://www.gov.uk/government/publications/the-mental-health-strategy-for-england>)
4. HM Government. *No health without mental health: implementation framework*. HM Government 2012. (<https://www.gov.uk/government/publications/national-framework-to-improve-mental-health-and-wellbeing>)
5. Department of Health (DOH) *Preventing Suicide in England: a cross-government outcome strategy to save lives*. DOH 2012 ([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/216928/Preventing-Suicide-in-England-A-cross-government-outcomes-strategy-to-save-lives.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216928/Preventing-Suicide-in-England-A-cross-government-outcomes-strategy-to-save-lives.pdf))
6. Cumbria County Council (2014). *A Refreshed Multi-Agency Suicide Prevention Strategy for Cumbria 2014-2015*. (<http://councilportal.cumbria.gov.uk/documents/s30275/A%20Refreshed%20Suicide%20Prevention%20Strategy%20for%20Cumbria%202014-2017.pdf?nobdr=2>)
7. Siddle R, Mathieson J, Brown R. Risk factors and escalators in 52 suspected suicides. *The Cumbria Partnership Journal of Research, Practice and Learning* 2011, 1(2): 9-13
8. Cumbria Partnership NHS Foundation Trust. *Suicide Prevention Plan*. November 2013. (<http://www.cumbriapartnership.nhs.uk/publications.htm>)
9. EUREGENAS. European Regions Enforcing Action Against Suicide. EUREGENAS 2012. (<http://www.euregenas.eu/>)
10. World Health Organisation (WHO). *International Statistical Classification of Diseases and Related Health Problems 10<sup>th</sup> Revision*. WHO 2014 (<http://apps.who.int/classifications/icd10/browse/2010/en>)
11. Office for National Statistics (ONS). Quality and Methodology Information: Suicide Rates in the United Kingdom. ONS 2013 ([www.ons.gov.uk](http://www.ons.gov.uk))
12. Office for National Statistics (ONS) Results of the ICD-10 v2010 bridge coding study, England and Wales 2009. ONS 2011 (<http://www.ons.gov.uk/ons/rel/subnational-health3/results-of-the-icd-10-v2010-bridge-coding-study--england-and-wales--2009/2009/index.html>)
13. Ministry of Justice. *Coroners Statistics 2012 - England and Wales*. Ministry of Justice 2013 (<https://www.gov.uk/government/publications/coroners-statistics>)

14. Hill, C. and Cook, L. Narrative verdicts and their impact on mortality statistics in England and Wales. *Health Statistics Quarterly* 2011, Vol.49, 81-100.
15. Data Protection Act. *Data Protection Principles*. Information Commissioners Office 1998. ([http://www.ico.org.uk/for\\_organisations/data\\_protection/the\\_guide/the\\_principles](http://www.ico.org.uk/for_organisations/data_protection/the_guide/the_principles))
16. Information Commissioners Office (ICO). *Anonymisation: managing data protection risk code of practice*. ICO November 2012 ([http://ico.org.uk/for\\_organisations/data\\_protection/topic\\_guides/anonymisation](http://ico.org.uk/for_organisations/data_protection/topic_guides/anonymisation))
17. Medical Protection Society. *Inquests*. Medical Protection Society 2014 (<https://www.medicalprotection.org/uk/england-factsheets/inquests>)
18. National Health Service (NHS). *Confidentiality: NHS Code of Practice*. NHS 2003 ([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/200146/Confidentiality\\_-\\_NHS\\_Code\\_of\\_Practice.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/200146/Confidentiality_-_NHS_Code_of_Practice.pdf))
19. Anderson M, Byng R, Bywaters J et al. Suicide audit in primary care trust localities: a tool to support population based audit of suicide and open verdicts. Care Services Improvement Partnership, National Institute for Mental Health in England, 2006.
20. Health and Social Care Information Centre (HSCIC). *Indicator Portal: NHS Information Centre Indicators*. HSCIC 2014. (<https://indicators.ic.nhs.uk/webview/>)
21. Department of Health (DOH). *Preventing Suicide in England: One year on, first annual report on the cross-government outcomes strategy to save lives*. DOH 2014 ([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/278119/Annual\\_Report\\_FINAL\\_revised.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/278119/Annual_Report_FINAL_revised.pdf))
22. Barr B, Taylor-Robinson D, Scott-Samuel A, McKee M, Stuckler D. Suicides associated with the 2008-10 economic recession in England: time trend analysis. *British Medical Journal* 2012, 354:e5142
23. Astell-Burt T, Feng X. Health and the 2008 Economic Recession: Evidence from the United Kingdom. *PLoS One* 2013; 8(2): e56674
24. Office for National Statistics (ONS). *Suicide in the United Kingdom, 2012 registrations*. ONS 2014 (<http://www.ons.gov.uk/ons/rel/subnational-health4/suicides-in-the-united-kingdom/2012/stb-uk-suicides-2012.html>)
25. Aschan L, Goodwin L, Cross S, Moran P, Hotopf M, Hatch SL. Suicidal Behaviours in South East London: Prevalence, risk factors and the role of socio-economic status. *Journal of Affective Disorders*, 2013. <http://dx.doi.org/10.1016/j.jad.2013.04.037i>
26. Communities and Local Government. *The English Indices of Multiple Deprivation, 2010*. Communities and Local Government 2011 ([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/6871/1871208.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6871/1871208.pdf))

27. Cumbria Action. *The Rural Share of Deprivation in Cumbria*. Cumbria Action 2010.  
(<http://www.cumbriaaction.org.uk/Portals/0/ACT%20Publications/PUB012%202010.05.01%20The%20Rural%20Share%20of%20Deprivation%20in%20Cumbria%20-%20Exec%20Summary.pdf> )
28. Brown R, Mathieson J, Church E, Willey H. *Epidemiological Review of Suicide in Cumbria*. NHS Cumbria 2009  
(<http://www.cumbria.nhs.uk/YourHealth/PublicHealthInformation/MentalHealthandWellbeingAssessment/epidemiologicalreviewofsuicideaudit.pdf>)
29. Hannon K, Giles S, Deacon L, Tocque K. Suicide in the North West: A review of non-residential and outdoor suicide locations. Liverpool John Moores University 2009.  
(<http://www.nwph.net/nwpho/publications/SuicideintheNW.pdf>)
30. Corcoran P, Nagar A. Suicide and Marital Status in Northern Ireland. *Soc Psychiatry Psychiatr Epidemiol* 2010, 45(8):795-800
31. Griffiths C, Ladvá G, Brock A, Baker A. Trends in suicide by marital status in England and Wales, 1982 – 2005. *Health Statistics Quarterly* 2008, 37: 8-14
32. Roškar S, Podlesek A, Kuzmanić M, Demšar LO, Zaletel M, Marušić A. Suicide risk and its relationship to change in marital status. *The Journal of Crisis Intervention and Suicide Prevention* 2011, 32(1): 24-30
33. Stuckler D, Basu S, Suhrcke M and McKee M. The health implications of financial crisis: A review of the evidence. *The Ulster Medical Journal* 2009, 78 142-145.
34. Rihmer Z, Kapitany B, Gonda X, and Dome P. Suicide, recession, and unemployment. *Lancet* 2013, 381: 722 – 723.
35. Pompili M, Innamorati M, Vittorio CD, Baratta S, Masotti V, Badaracco A, Wong P, Lester D, Yip P, Girardi P, Amore M. Unemployment as a Risk Factor for Completed Suicide: A Psychological Autopsy Study. *Archives for Suicide Research* 2014, 18: 181-192
36. Office for National Statistics (ONS). *Standard Occupational Classification 2010 (SOC2010)*. ONS 2010. (<http://www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/soc2010/index.html>)
37. King C. *A National Study of Suicide and Recent Contact with the Criminal Justice System*. Unpublished Thesis, 2011, University of Manchester
38. Ho TP, Yip PS, Chiu CW, Halliday P. Suicide Notes: what do they tell us? *Acta Psychiatrica Scandinavica* 1998, 98(6): 467-473
39. Office for National Statistics (ONS). *Suicide in the United Kingdom, 2012 Registrations* ONS 2014 (<http://www.ons.gov.uk/ons/rel/subnational-health4/suicides-in-the-united-kingdom/2012/stb-uk-suicides-2012.html>)
40. Addiction Recovery Agency (ARA). *Blood Alcohol Concentration*. ARA 2011  
(<http://www.addictionrecovery.org.uk/wp-content/uploads/2011/12/Alcoholconcentration.pdf>)

41. Ministry of Justice (MOJ). *Coroners Statistics 2012 England and Wales*. MOJ 2013 ([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/199793/coroners-statistics-bulletin-2012.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/199793/coroners-statistics-bulletin-2012.pdf))
42. Ministry of Justice (MOJ). *Prevention of Future Death Reports (previously known as rule 43)* MOJ 2013 (<http://www.justice.gov.uk/coroners-burial-cremation/coroners/rule-43>)
43. NHS England. *GP Patient Survey: CCG Report*. July 2014 (<https://gp-patient.co.uk/surveys-and-reports#july-2014>)
44. Appleby, L et al. Suicide in primary care in England: 2002-2011. National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (NCISH). Manchester: University of Manchester, 2014
45. World Health Organisation (WHO). *Suicide Prevention (SUPRE)*. WHO 2014 ([http://www.who.int/mental\\_health/prevention/suicide/suicideprevent/en/](http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/))
46. Pompili M, Serafini G, Innamorati M, Dominici G, Ferracuti S, Kotzalidis GD et al. Suicidal Behaviour and Alcohol Abuse. *International Journal of Environmental Research and Public Health* 2010, 7(4): 1392 – 1431
47. Harris EC, Barraclough B. Suicide as an outcome for mental disorders: a meta-analysis. *British Journal of Psychiatry* 1997; 170:205–228
48. Pompili M, Lester D, Innamorati M, DePisa E, Amore M, Ferrara C et al. Quality of Life and Suicide Risk in Patients With Diabetes Mellitus. *Psychosomatics* 2009; 50(1), 16-23
49. Appleby L, Kapur N, Shaw J, Hunt IM, While D, Flynn S et al. The National Confidential Inquiry into Suicide and Homicide by People with Mental Illness: Annual Report. July 2013 ([http://www.bbmh.manchester.ac.uk/cmhr/centreforsuicideprevention/nci/reports/AnnualReport2013\\_UK.pdf](http://www.bbmh.manchester.ac.uk/cmhr/centreforsuicideprevention/nci/reports/AnnualReport2013_UK.pdf))
50. Crawley MJ. Suicide following discharge from psychiatric in-patient care. *Advances in Psychiatric Treatment* 2004, 10; 434–438
51. Department for Work and Pensions (DWP) *Incapacity benefits: reassessing claims: guidance for advisers and intermediaries*. April 2013 (<http://www.gov.uk/government/publications/incapacity-benefits-reassessing-claims-guidance-for-advisers-and-intermediaries>)
52. Department for Work and Pensions (DWP) *Local authorities and advisers: removal of the spare room subsidy*. April 2014 (<https://www.gov.uk/government/collections/local-authorities-removal-of-the-spare-room-subsidy>)



53. Stack S, Wasserman I. Economic Strain and Suicide Risk: A Qualitative Analysis. *Suicide and Life-threatening Behaviour*. 2007, 37; 103-112
54. Ilgen MA, Zivin K, Austin KL, Bohnert ASB, Czyz EK, Valenstein M et al. Severe Pain Predicts Greater Likelihood of Subsequent Suicide. *Suicide and Life-threatening Behaviour*. 2010, 40(6); 597-608
55. Ludvigsson JF, Sellgren C, Runeson B, Långström N, Lichtenstein P. Increased suicide risk in coeliac disease – A Swedish nationwide cohort study. *Digestive and Liver Disease* 2011, 43;616-622
56. Pompili M, Lester D, Innamorati M, De Pisa E, Amore M, Ferrara C et al. Quality of Life and Suicide Risk in Patients With Diabetes Mellitus. *Psychosomatics* 2009, 50:16-23
57. Owens C, Roberts S, Taylor J. Utility of local suicide data for informing local and national suicide prevention strategies. *Public Health*. 2014, 129(5); 424-429

## 14. Data Tables

Figure 1: Trend of directly standardised rate (per 100,000) of suicide in England, 1993 – 2012 (Source: Health and Social Care Information Centre)

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
England	12.2	11.7	12.0	11.6	11.4	12.7	12.5	11.8	11.3	11.0	10.8	10.9	10.6	10.0	9.5	10.1	10.3	9.8	10.4	10.4

Figure 2: Trend of directly standardised rate (per 100,000) of suicide in Cumbria and England, 1993 – 2012 (Source: Health and Social Care Information Centre)

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
England	12.2	11.7	12.0	11.6	11.4	12.7	12.5	11.8	11.3	11.0	10.8	10.9	10.6	10.0	9.5	10.1	10.3	9.8	10.4	10.4
Cumbria	12.7	16.4	16.5	13.7	13.9	18.4	16.0	14.8	10.9	14.1	14.1	16.0	13.9	12.9	14.5	10.0	12.5	11.6	11.8	14.4

Figure 3: Trend of directly standardised rate (per 100,000) of male suicide in Cumbria and England, 1993 – 2012 (Source: Health and Social Care Information Centre)

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
England	18.8	18.2	18.7	17.8	17.5	19.8	19.5	18.1	17.5	16.8	16.6	16.5	16.1	15.3	14.8	15.8	16.0	15.0	16.1	16.4
Cumbria	20.8	26.5	25.7	19.6	23.2	31.2	25.6	23.1	16.8	19.9	22.1	26.4	23.1	17.1	21.0	14.6	21.4	18.5	19.9	23.2

Figure 4: Trend of directly standardised rate (per 100,000) of female suicide in Cumbria and England, 1993 – 2012 (Source: Health and Social Care Information Centre)

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
England	6.0	5.5	5.7	5.7	5.7	5.8	5.8	5.9	5.3	5.3	5.3	5.6	5.4	4.8	4.4	4.7	4.7	4.7	4.9	4.5
Cumbria	4.4	6.7	7.6	8.0	5.2	5.9	6.5	7.1	5.2	8.8	6.4	5.8	4.9	8.9	8.2	5.3	4.0	4.9	3.8	5.7

Figure 5: Directly standardised rate (per 100,000) of suicide in Cumbria and England by age-group, 2010 – 2012 (Source: Health and Social Care Information Centre)

Age Group	15-34	35-64	65-74	75+
Cumbria	10.9	14.8	6.5	9.1
England	7.8	12.7	7.1	8.1

Figure 6: Directly standardised rate (per 100,000) of suicide in Cumbria and England aged 15-44, 2010 – 2012 (Source: Health and Social Care Information Centre)

Area	Gender	DSR per 100,000	Lower 95% CI	Upper 95% CI
Cumbria	Males	21.39	16.11	27.84
	Females	4.89	2.57	8.40
	Persons	13.13	10.19	16.66
England	Males	15.16	14.74	15.59
	Females	4.04	3.82	4.26
	Persons	9.59	9.36	9.83

Figure 7: Directly standardised rate (per 100,000) of suicide in Cumbria by Local Authority aged 15 +, 2010 – 2012 (Source: Health and Social Care Information Centre)

Local Authority	DSR per 100,000	Lower 95% CI	Upper 95% CI
Allerdale	11.48	7.34	16.99
Barrow in Furness	7.56	3.86	13.27
Carlisle	13.49	9.24	19.01
Copeland	16.69	11.2	24.55
Eden	8.76	4.18	15.83
South Lakeland	9.0	5.58	13.61
Cumbria	11.52	9.6	13.69
England	7.63	7.48	7.78

Figure 8: Directly standardised rate (per 100,000) of suicide in Cumbria by gender and Local Authority, 2010 – 2012 (Source: Health and Social Care Information Centre)

Local Authority	Gender	DSR per 100,000	Lower 95% CI	Upper 95% CI
Allerdale	Males	18.9	11.5	29.2
	Females	4.3	1.3	10.2
Barrow in Furness	Males	12.8	6.1	23.7
	Females	2.3	0.2	8.4
Carlisle	Males	21.9	14.2	32.1
	Females	5.1	2.0	10.8
Copeland	Males	28.5	18.3	42.4
	Females	5.3	1.4	13.6
Eden	Males	13.1	5.6	25.6
	Females	4.4	0.4	13.7
South Lakeland	Males	17.0	10.2	26.1
	Females	1.7	0.3	5.1
Cumbria	Males	19.4	15.9	23.4
	Females	3.8	2.4	5.8
England	Males	12.2	11.9	12.5
	Females	3.2	3.1	3.3

Figure 9: Trend of directly standardised rate (per 100,000) of suicide in Cumbria by gender and Local Authority, 1993-2012 (Source: Health and Social Care Information Centre)

Local Authority	Gender	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Allerdale	Males	39.6	15.8	14.4	10.0	28.0	32.1	30.5	31.4	11.5	23.3	25.5	13.6	24.0	16.9	29.4	12.9	35.9	19.5	24.6	15.7
	Females	9.6	9.3	5.8	7.6	2.7	4.8	14.7	4.7	0.0	11.8	5.3	5.6	5.8	7.8	4.6	11.2	7.8	6.3	1.8	5.0
	Persons	24.4	12.8	10.1	8.6	15.3	18.0	22.7	17.6	5.7	17.1	15.3	9.8	14.7	12.2	17.0	11.9	21.0	12.8	13.0	10.0
Barrow	Males	7.0	31.5	43.8	24.0	31.6	13.6	28.7	30.9	13.6	23.7	29.2	29.8	22.0	6.5	4.8	21.3	12.7	4.3	18.2	22.9
	Females	5.0	4.7	8.0	10.7	10.8	2.9	5.9	8.9	7.4	18.4	9.8	3.1	7.8	5.2	5.0	0.0	4.8	3.5	4.1	2.8
	Persons	6.3	18.1	25.9	16.9	20.9	8.5	17.2	19.5	10.4	20.4	19.4	15.6	14.7	5.8	4.9	10.6	8.5	3.8	11.1	13.1
Carlisle	Males	16.1	23.4	31.9	13.9	16.9	40.7	23.2	30.4	24.0	18.8	17.6	38.3	34.2	21.4	27.1	10.3	25.1	30.4	22.1	13
	Females	4.0	7.3	9.1	7.3	12.4	8.2	6.6	10.5	11.6	9.6	4.5	11.4	8.1	10.2	11.3	4.7	4.5	4.2	6.7	4.7
	Persons	10.2	14.7	20.3	10.5	13.9	24.1	14.8	19.8	17.8	13.9	10.2	24.3	21.0	15.7	19.1	7.5	14.4	17.3	14.4	8.9
Copeland	Males	24.4	41.7	27.6	31.8	13.9	31.6	29.5	24.6	25.8	29.4	29.7	18.7	20.1	34.2	24.3	24.9	10.5	8.61	38.4	44.6
	Females	0.0	3.7	3.4	9.5	0.0	0.0	7.5	13.0	3.6	7.0	0.0	3.4	0.0	12.4	14.7	7.1	3.3	7.9	1.3	11.7
	Persons	12.5	22.9	15.6	20.6	6.7	15.9	18.4	17.7	14.4	18.4	15.2	11.2	10.0	23.5	19.8	15.9	6.9	8.3	19.9	28.4
Eden	Males	23.0	14.8	15.5	11.6	15.4	50.0	25.8	14.6	7.0	0.0	14.9	40.1	13.2	3.5	19.4	18.4	11.6	30.8	2.9	10.8
	Females	5.4	14.2	12.8	5.5	5.0	0.0	0.0	0.0	4.4	0.0	11.0	0.0	3.7	4.7	4.5	0.0	0.0	2.3	0.0	11.0
	Persons	14.3	14.4	13.6	8.9	10.2	24.9	12.8	7.3	5.8	0.0	13.3	20.0	8.4	4.2	11.9	9.3	5.8	16.5	1.5	10.8
South Lakeland	Males	14.3	29.0	17.9	28.1	30.1	22.2	18.0	4.4	14.4	17.0	15.5	22.0	20.2	14.5	17.2	7.4	23.5	13.6	9.8	30.8
	Females	1.3	4.1	7.7	8.6	0.0	13.6	2.3	4.7	2.8	4.9	9.5	6.5	2.4	10.1	7.6	5.6	2.0	3.8	5.9	2.8
	Persons	7.8	16.1	12.6	18.2	14.7	17.6	10.1	4.5	8.5	10.9	12.5	14.3	11.0	12.1	12.3	6.6	12.5	8.5	7.8	16.1

Figure 10: Directly standardised rate (per 100,000) of suicide in Cumbria by national deprivation quintile, 2010-12

Deprivation Quintile	DSR per 100,000	Lower 95% CI	Upper 95% CI
Quintile 1 (most deprived)	12.4	8.3	17.9
Quintile 2	13.8	9.9	18.8
Quintile 3	10.4	7.5	14.0
Quintile 4	8.3	5.5	11.9
Quintile 5 (least deprived)	7.1	3.7	12.3

Figure 11: Trend of directly standardised rate (per 100,000) of suicide in Cumbria in most and least deprived national quintiles, 2003-05 to 2010-12 (Source: PHMF, IMD 2010 & ONS Population Estimates)

Year	Quintile 1	Quintile 5	Inequality Gap
2003-05	19.5	6.9	12.6
2004-06	20.3	8.7	11.6
2005-07	17.8	8.4	9.4
2006-08	16.2	9.1	7.1
2007-09	16.1	6.7	9.4
2008-10	16.4	6.9	9.5
2009-11	14.5	9.0	5.5
2010-12	12.9	7.0	5.9

Figure 12: Directly standardised rate (per 100,000) of suicide in Cumbria by income deprivation quintile, 2010-12

Deprivation Quintile	DSR per 100,000	Lower 95% CI	Upper 95% CI
Quintile 1 (most deprived)	12.3	7.2	19.5
Quintile 2	13.8	9.9	18.7
Quintile 3	11.2	7.5	16.0
Quintile 4	7.6	5.2	10.9
Quintile 5 (least deprived)	9.9	6.7	14.0

Figure 13: Directly standardised rate (per 100,000) of suicide in Cumbria by rural and urban classification, 2010-12

Classification	DSR per 100,000	Lower 95% CI	Upper 95% CI
Town and Fringe	11.9	8.5	16.1
Urban >10k	10.1	7.9	12.6
Village, Hamlet & Isolated Dwelling	10.3	7.2	14.1

Figure 14: Crude rate (per 100,000) of suicide in Cumbria by marital status and audit year

<b>Marital Status</b>	<b>2006</b>	<b>2008</b>	<b>2012-13</b>
Married	16.1	28.4	23.7
Separated	42.8	57.1	114.2
Divorced	22.2	34.9	22.2
Never Married	43.9	66.9	79.5
Widowed	2.9	31.4	0.0

Figure 15: Percentage (%) of suicides in Cumbria according to employment status and audit year

<b>Employment Status</b>	<b>2006</b>	<b>2008</b>	<b>2012/13</b>
Unemployed	25	28	24
Employed	37	21	26
Retired	14	19	23
Long term sick or disabled	8	15	12
Other	2	0	1
Not Known	14	17	14

Figure 16: Crude rate (per 100,000) of suicide in Cumbria by major occupation group and audit year

Major Occupation Group	2006	2008	2012-13
Managers, Directors and Senior Officials	27.7	11.9	19.8
Professional Occupations	8.8	11.7	17.5
Associate Professional and Technical Occupations	8.4	21.1	16.9
Administrative and Secretarial Occupations	4.2	4.2	21.0
Skilled Trades Occupations	32.6	27.6	40.1
Caring, Leisure and Other Service Occupations	4.2	16.8	4.2
Sales and Customer Service Occupations	9.5	14.3	4.8
Process, Plant and Machine Operatives	26.2	17.5	61.1
Elementary Occupations	16.4	39.4	49.3

Figure 17: Trend of the percentage (%) of male suicides in Cumbria by method, 2001 – 2012

Method	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Hanging	45.2	53.8	45.2	40.0	59.6	57.6	52.5	53.6	59.1	62.2	70.7	71.7
Poisoning	32.3	23.1	23.8	28.0	19.1	24.2	27.5	21.4	15.9	13.5	9.8	17.4
Other	22.6	23.1	31.0	32.0	21.3	18.2	20.0	25.0	25.0	24.3	19.5	10.9

Figure 18: Trend of the percentage (%) of female suicides in Cumbria by method, 2001 – 2012

Method	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Hanging	9.1	25.0	6.7	33.3	44.4	56.3	25.0	50.0	62.5	30.0	55.6	41.7
Poisoning	54.5	58.3	66.7	50.0	55.6	37.5	50.0	30.0	12.5	50.0	22.2	41.7
Other	36.4	16.7	26.7	16.7	0.0	6.3	25.0	20.0	25.0	20.0	22.2	16.7



Figure 19: Percentage (%) of suicide, open and narrative verdicts in Cumbria by audit year

<b>Verdict</b>	<b>2006</b>	<b>2008</b>	<b>2012/12</b>
Suicide	47	62	59
Open	39	21	10
Narrative	14	13	31

Figure 20: Percentage (%) of suicides in Cumbria according to reason for last contact with GP within a year prior to death, by gender

<b>Reason for last GP contact</b>	<b>Males</b>	<b>Females</b>	<b>Persons</b>
Mental	43	53	46
Physical	43	29	40
Both	11	18	13
Not known	2	0	2

Figure 21: Percentage (%) of individuals who died by suicide with a mental health diagnosis recorded at the time of death, by age band

<b>Age Band</b>	<b>%</b>
<25	50
25-44	54
45-64	75
>65	57
All ages	63

Figure 22: Percentage (%) of individuals who died by suicide according to self-harm history and audit year

History of self-harm	2006	2008	2012-13
No history	36.7	54.7	46.2
Only prior to 12 months before death	28.6	18.9	26
Only within 12 months prior to death	14.3	3.8	3.0
Lifetime history	8.2	9.4	14.1
Unknown	12.2	13.2	11.5

Figure 23: Percentage (%) of males and females who died by suicide with a history of self-harm, by audit year

Audit Year	Males	Females
2006	51.0	50.0
2008	21.6	56.4
2012/13	38.3	55.5

Figure 24: Percentage (%) of patient suicides and suicides by individuals with any lifetime contact with specialist mental health services, by age-band

Age Band	Patient Suicide	Any Lifetime Contact with MH Services
<25	38	75
25-44	25	54
45-64	47	72
>65	29	50



Centre for Public Health  
Faculty of Education, Health and Community  
Liverpool John Moores University  
2<sup>nd</sup> Floor, Henry Cotton Campus  
15-21 Webster Street  
Liverpool  
L3 2ET

Email: [r.e.brown@ljmu.ac.uk](mailto:r.e.brown@ljmu.ac.uk)